1-1-2008

Novice teachers experience a mosaic of mentoring as they learn to teach.

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NOVICE TEACHERS EXPERIENCE A MOSAIC OF MENTORING AS THEY LEARN TO TEACH

A Dissertation Presented

By

BEVERLEY J. M. BELL

Submitted to the Graduate School of the
University of Massachusetts Amherst in partial fulfillment
of the requirements for the degree of

DOCTOR OF EDUCATION

May 2008

Teacher Education School Improvement

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DEDICATION

I dedicate this research to the mosaic of mentors that provided guidance and nurturing over the past few years in order for me to complete this dissertation. Ken Parker, Judy Placek, and Linda Griffin, my various committee chairs who provide leadership, Patt Dodds, who always provided sound advice, and Pat Mercaitis, my friend and committee member, who read this dissertation in its various forms, numerous times, and always provided positive encouragement and feedback.

During the final stages of this dissertation, Gail Malcolmson for providing the impetus for me to complete the writing, all the way from South Africa, and Elizabeth and Amanda Mundt, for slaving over the bibliography with me. Other friends and colleagues who provided sound advice, Barbara Madeloni, Lenore Carlisle, and my team of doctoral friends, Penny Mahoney, Fleur Barnes and Kathy Miraglia.

Finally to Dave, my husband and best friend, who believed in me, and would not let me 'throw in the towel', and my children, Brad and Meagan, for always giving me space and encouragement to complete this program.

ABSTRACT

NOVICE TEACHERS EXPERIENCE A MOSAIC OF MENTORING AS THEY LEARN TO TEACH

MAY 2008

BEVERLEY J. M. BELL

Ed.D., UNIVERSITY OF MASSACHUSETTS AMHERST

Directed by: Professor. Linda, L. Griffin

In the early 1980's teacher induction programs were introduce widely in the US in order to support novice teachers, and to stem the rising trend in teacher attrition. However, 9.5% of all teachers continue to leave teaching within the first year, and up to 50% leave within five years. Mentoring is the basis of most induction programs therefore, in order to understand the impact of induction programs, it is important to understand the role of mentoring within induction. Induction programs tend to be generic in their approach and do not specifically, and intentionally acknowledge the individual and diverse needs and expectations of novice teachers as autonomous, rationale self-directed adult learners.

This phenomenological case study research utilized adult learning as the theoretical framework to explore novice teachers' perceptions of mentoring supports as they learned to teach. This research focused specifically on their perceptions of the formal and informal mentoring and interactions that they experienced in their first four months of teaching. The analysis revealed that the supports received by novices could be conceptualized as a mosaic of mentoring interactions that take place in a number of conceptual spaces, two formal (formal induction programs and schools as ecological systems or school ecologies) and one informal (informal networks and interactions within

and between two formal conceptual spaces). The analysis also revealed that each conceptual space comprised three levels where mentoring took place namely, the macro (systemic and institutional) level, the meso (departmental and school geographic) level, and the micro (individual or interpersonal) level.

The findings indicate that induction is a multi-faceted process that should include all stakeholders, both district and school, in order to provide initial and sustained support to novices. School ecology is an untapped resource in providing support to novice teachers. The strategic use of physical space, the physical presence of people and systematic organizational inclusion of strategies such as creative scheduling, all provide additional organic support for novice teachers. Both formal induction programs and school ecology should be strategically structured to allow informal networking to occur, as these networks emerged as the most effective 'mentoring' support experienced by the participants.

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CHAPTER 1

INTRODUCTION

"It takes a whole school to raise a single teacher"
Adapted from an African Proverb

The origin of mentoring can be traced back through history to Greek mythology where Homer, in The Odyssey, describes how Odysseus, who will be away fighting the Trojan War, entrusts the care of his son Telemachus to an old man named Mentor. Mentor's responsibility is to educate Telemachus and nurture him by demonstrating integrity, wisdom, and personal involvement with him; in turn, Telemachus is expected to show respect for his mentor. Since then, the concept of mentoring has always alluded to a relationship, which involves personal involvement, mutual respect, and an appropriate mentor taking the responsibility to shape the growth and development of the younger protégée. During the 1970s, when mentoring emerged as a tool within the larger education reform movement in the United States (US), this particular emphasis on mentoring formed the basis of most induction programs (Feiman-Nemser, 1996).

Currently, induction programs set out to provide some of the much needed support and assistance to novice teachers based on the same premise. Stereotypically, novice teachers are categorized as a generic, homogenous group with common needs and challenges as they enter the teaching profession. Research, however, has suggested that they are neither homogenous, nor do they have similar needs (Schaffer, Stringfield, & Wolfe, 1992). Support is usually provided by qualified and more seasoned colleagues (Huling-Austin, 1989, 1992), but current induction programs tend to maintain a narrow vision (Feiman-Nemser, 2001a), and have largely failed to recognize and meet the unique range of needs of individual novice teachers as they enter the US school systems (Huling-

Austin, 1989; Stroot, Fowlkes, Lanholz, Paxton, Stedman, Steffes et al., 1999; Wilkinson, 1994). Consequently, mentoring, as one component of current induction programs, offers a formal one-on-one mentor for novice teachers, which is usually the bridge between the generic induction program and the individual novice teacher's needs.

While most induction programs in the US provide initial information to first year teachers and teachers new to the district at the orientation stage, this is only the first step towards a more comprehensive and supportive induction program that will lead to the retention of quality teachers. Novice teachers have reported experiencing difficulties of varying degrees in adjusting to the rigors of the classroom (Huling-Austin, 1989) and many have reported experiencing "reality shock", as described by Veenman (1984). The "questions and uncertainty that novice teachers bring to school require far more than information, orientation meetings, a mentor in the building, directions to the supply closet, and a written copy of the school's discipline policy" (Johnson & Kardos, 2002). Novice teachers are often overwhelmed by all of this initial information and would prefer to be given some basic information, followed by a longer-term process where mentor teachers, caring colleagues, peers, and others, help them to understand and implement the procedures throughout their first year (Bell & Miraglia, 2003; Wilkinson, 1997).

Formal induction programs, which include mentoring, are essential supports for novice teachers as they enter the profession; but more importantly, daily, informal interactions also play an essential role in the process of novice teachers learning to teach. Schools, therefore, should be structured in such a way as to promote both these formal and informal learning interactions. Mentoring and induction programs tend to have very specific goals and foci, and these do not necessarily meet the total needs of novice teachers. Therefore, creating networking opportunities, common meeting spaces, and

common planning and meeting times in the daily lives of teachers could provide a mosaic of mentoring which would produce the multiple supports necessary for novice teachers as they learn to teach.

Schools are more than merely groups of people interacting; they are dynamic communities of people who learn how to learn together, and form what Senge (1990) has called a "learning organization". We should expand the current notion of mentoring, as it is so much broader than simply the formal interactions between the novice and their formally assigned mentor. Mentoring occurs between the novice teacher and a variety of people from the broader school community, as was the case of Athena who appeared as Mentor to provide godly or sage advice to Telemachus.

Rationale for the Study

In 1996, the National Commission on Teaching and America's Future (NCTAF) challenged the nation to provide every child with a qualified teacher, and proposed a blueprint for (a) recruiting, (b) preparing, and (c) supporting excellent teachers (1997). A study conducted three years later by Recruiting New Teachers Inc. (RNT, 2000) suggested that the US would still need to hire approximately two million K-12 teachers over the next decade in order to meet the rising demand created by increasing student enrollments, and to fill the gaps created by accelerated teacher retirements, and policies aimed at reducing class size. To support the NCTAF's challenge, the No Child Left Behind Act (NCLB) of 2001 (NCTAF, 2003) set clear goals to ensure that all children have the opportunity to learn, regardless of income, background, or ethnic identity. Furthermore, it pledged that every child would, in fact, have access to high quality teaching by the year 2005/6. In January 2003, the NCTAF commission concluded that while much had been done in terms of the first two challenges set in 1996 (recruitment

and preparation of teachers), school staffing continues to be a problem and is directly related to teacher retention.

Teacher attrition has clearly become a national crisis in the US. Within their first year of teaching, 9.3% of novice teachers leave teaching. Research has indicated that within three years, somewhere between 25% and 33% of all novice teachers have left teaching, and within five years, just under 50% have left (NCTAF, 2003; RNT, 1999). This trend is worse in urban schools where more than 77% of all schools are faced with shortages in high need areas, especially in subjects such as Science, Mathematics, Special Education, Bilingual Education, and Elementary Education. Ninety-two percent of these districts additionally cite an immediate demand for teachers of color, in order to meet the diversity requirement that their districts demand (Merrow, 1999).

Induction and mentoring, as components of school-wide professional development programs, have been identified as tools that can "turn the tide" on these negative attrition rates. Since the mid-1980s, there has been a rapid growth in teacher induction programs in the US. These include state-mandated programs, college/university programs, district programs, and regional education programs. More recently, professional organizations have also become involved in providing induction programs. Currently, 33 states have induction programs, and of these, only 22 states mandate and fund them (American Federation of Teachers [AFT], 2001; Darling Hammond, 2003; NCTAF, 2003). This is a marked improvement from 1996, when only seven states had some type of induction program. These programs vary from state to state and from district to district, as do the focus, goals, and implementation of individual programs. Twenty-nine of these states provide a mentor teacher and 21 of these states also provide criteria for the selection of a mentor, but of these, only 17 states require mentor training. Only one state, New York,

provides a reduced teaching load for its novice teachers, and two states, namely, New York and Kentucky, offer reduced teaching loads for their mentor teachers (AFT, 2001; Darling-Hammond & Sykes, 2003). Twenty-two states provide funding for their induction programs (Darling-Hammond, 2003). States that require and fund some form of induction program have fared well in teacher quality, and ranked among the top 10 states with the most improved teacher quality in 2001 (Quality Counts, Education Week, 2002). While many states and school districts have undertaken the responsibility of providing induction for novice teachers, various segments of their previously comprehensive programs have either been cut, or simply reduced to a one-on-one mentoring situation, with no training or support for the mentors.

Purpose of this Study

This phenomenological multiple case study investigated how district-based induction programs, school ecology, as well as formal and informal mentoring, provided support for novice teachers during their first semester of teaching. The broad focus of this study set out to determine how novice teachers learned to teach, through the mosaic of mentoring and interactions that occurred during their first four months of teaching. It was deemed critical to understand these informal interactions from the perspectives of novice teachers (Cochran-Smith & Lytle, 1999). This research has provided evidence that a mosaic of formal and informal mentoring optimizes the supports provided for veteran and novice teachers, thereby affecting current negative attrition rates.

This study was guided by the following questions:

How do novice teachers perceive the impact of the multitude of formal and informal mentoring interactions they experience in the process of their learning to teach?

Why do specific interactions seemingly provide support to novice teachers as they learn to teach?

Significance of this Particular Study

Research and literature on mentoring prior to the 1990s consisted mainly of program descriptions and survey-based evaluations, which produced definitions of mentoring and general discussions of mentor roles and responsibilities. Since the early 1990s, however, more studies have focused on the context, content, and impact of mentoring. Cochran-Smith (1991) studied how conversations between mentors and novice teachers at school-site group meetings, which focus on specific problems of practice, expose novices to a broad range of mentoring and to a sharing of ideas about how to reform their practice.

There is a need for more research which would examine how mentors can work with novice teachers in productive ways, and more specifically, on how a variety of mentoring interactions could affect teacher retention (Feiman-Nemser, 1996). Furthermore, as there seems to be very little evidence of a clear link between mentors' work and the process of novice teachers learning to teach, this study has attempted to contribute to that literature.

Research conducted by Feiman-Nemser and Parker (1993) and a recent review of the literature, categorized mentoring programs in the US as providing support for novice teachers in one of three ways, namely: mentor as "local guide;" mentor as "educational companion;" and mentor as "agent of change." Based on the theoretical framework provided by Feiman-Nemser and Parker (1993), this research has provided evidence that novice teachers, in fact, need a variety of sources of support and not only one, of the three, roles identified by Feiman-Nemser and Parker. If induction and mentoring program

goals are so specific that they include only one type of support, then informal (planned or unplanned) interactions, that occur within schools, will provide the mosaic of mentoring needed by novice teachers as they learn to teach. All these formal and informal interactions affect novice teachers as they learn to teach. In order to plan for the complete range of learning experiences of novice teachers, schools should consider how they operate on a day-to-day basis, considering the following: teaching schedules; common planning and preparation times, provision of faculty lounges; clustering of classrooms for different departments; and the creation of other opportunities that encourage faculty interactions.

Theoretical Framework

This study is firmly grounded within the broad conceptual framework of adult learning theory. Adult learning theories have important implications for the preparation of teachers. The three theories discussed in this literature review are based on constructivist theories of learning, and they provide a new lens through which to view teacher education. Traditional approaches tend to prefer a transmission model of learning or a "banking system of education" (Freire, 1972), where mentors are considered the experts and knowledge is merely transmitted from the mentor to the teacher, and then from the teacher to the student. Constructivism demands that all participants in the teaching and learning process actively contribute to the development of knowledge. Constructivists propose that knowledge cannot be reduced either to the process of information that is internal, or to what is presented from the outside. Rather, they propose that knowledge comes from human activity as people interact and engage with each other in the physical world. Within these interactions, people actively construct new knowledge as a product of their internal knowledge base that engages with the experience and knowledge of the

world around them (Kroll & Amon, 2002). Dewey (1963), under the banner of progressive education, proposed similar ideas, believing that intelligence is continuously reconstituted and reconstructed. Knowledge is considered to be both constructed (a process) and a construction (a product). In the mentoring process, mentors play an active and strategic role in this process as they guide novice teachers to construct deeper and more powerful knowledge, using activities that bridge their prior knowledge of teaching and learning with the social resources available, through critical reflection (the process). Through this strategically facilitated process, novice teachers are able to develop and build (construct) new knowledge (the product).

The three adult learning theories informing this study provide induction program planners with an underlying foundation from which to work, in terms of the adult learner, the process of learning, and the teacher of adult learners.

The adult learners are considered autonomous, rational, self-directed human beings who actively seek to learn. Furthermore, adults bring prior personal experience of life to the learning experience, which provides a lens from which they view new experiences and learning. This must be considered as "part and parcel" of whom they are, and must be used as a foundation on which to build new knowledge. The goal of adult learning through the fostering of transformational learning should be to facilitate the process of adults gaining agency over their own lives, and thus their own learning.

The learning process should be learner centered, as opposed to focusing on the content that is to be learned. It is essential to involve adults in planning their own learning, and to provide opportunities for them to set their own goals, to formulate their own learning objectives, and to assess their own learning. Adults learn through the

process of reflecting on their assumptions, values, and beliefs, and this enables them to make meaning of their new experiences and learning.

Teachers of adult learners should be prepared to act as facilitators, rather than conveyors of knowledge. They need to provide opportunities for adults to articulate their needs, problems, and concerns, and then allow them to be part of planning the learning experience. Adults value learning from their peers and in groups, and as such, it is essential to create space for the creation and formulation of these learning networks.

Definition of Terms

In order to provide clarity on the purpose of this study and the research questions, this section provides a description of terms used in the research.

Novice teacher, as used in the literature on induction, refers to teachers who are typically in their first through third years of teaching. For the purposes of this study, novice teachers, who are the prime participants, are teachers in their first year of formal teaching. This term does not include teachers new to the school district, despite the fact that these teachers are usually included in the district-wide induction program. Teachers new to the district could range from teachers in their early years of teaching through to more experienced, veteran teachers. Their needs and concerns are typically not the same as those of first year teachers, and as such, their interactions or mentoring situations will look very different from those entering teaching for the first time, thus these teachers are not included under this term for this study. Furthermore, this term includes teachers who have progressed through traditional and alternative teacher preparation routes, as well as those who have entered teaching without any form of teacher preparation or licensure.

Induction is often erroneously used synonymously with the term mentoring. For the purposes of this study, induction refers to the particular program offered by each

school district to induct its new teachers. The literature on induction offers a much broader perspective: A process that provides the needed transition from individual teacher education programs, through the first five years, into a culture of life-long professional development where novice and veteran teachers are all valued. This continuum should be provided by the collective collaboration among the university faculty, the school district, and the school personnel (Colbert & Wolff, 1992; Darling-Hammond & Sykes, 2003; Feiman-Nemser, 2001a; Kardos, 2003; Wong, 2004). So, while this study has reviewed the literature on programs that do indeed use this broader perspective (or fall within that continuum) on induction, the actual school sites where data were collected will each offer their particular vision of the term induction.

Mentoring has become a "buzz-word" since the early 1980s when this particular strategy emerged as an explicit part of a broad movement that aimed at improving education (Feiman-Nemser, 1996). During this time, policymakers decided that providing on-site support and assistance seemed like a logical step toward, and a necessary component of, educational reform that aimed at decreasing the attrition rate of novice teachers (Little, 1990). For the purposes of this study, the term mentoring is used to describe the formal process that is usually a significant component of many induction programs. The school districts that were used as the sites for this study all use mentoring, which is broadly described as a formal one-on-one mentoring partnership, as a component of their particular induction programs. All interactions between the novice teachers and their mentors, department chairs, or the administration that is mandated or considered part of this formal induction program, or professional development program, fall under this term.

Informal mentoring is used to describe all other interactions that occur between the novice teachers and other people as they learn to teach in their first semester. These include informal interactions with their mentors, department chairs, colleagues, peers, other staff, the students and the community.

Each novice was assigned a mentor by their school district. This person was required to work with the novice teacher for their first year of teaching. This was a formal arrangement, and for the purposes of this study, the term mentor is used only for the specific person who was assigned to work with the novice teacher.

Veteran teacher refers to other teachers who have been teaching for more than three years and who are currently teaching. This includes all veteran colleagues that the novice teachers interact with during their first semester, within their subject department, and the school as a whole.

The term peers refers to other novice teachers who are also in their first year of formal teaching. Often, first year teachers who attend induction programs or workshops at the start of the school year form friendships with others in the same situation.

All other faculty who cannot be identified as either veteran teachers or peers are referred to as colleagues.

Teacher turnover includes leavers and movers. These two groups of teachers are often included in statistics on the retention or attrition rate of teachers. Movers are teachers who move from one school to another, usually seeking better working conditions (Alliance for Excellent Education, 2004), and leavers are those who leave the teaching profession altogether, in order to retire or for other reasons.

Attrition refers to the phenomenon describing teachers who are leaving the teaching profession altogether.

Teacher attrition in the US impacts the ability of students to learn. This research explored the current teaching situation, in terms of teacher retention, recruitment, attrition, goals set by the commission, and making progress towards these goals. The current state of affairs in this regard provided the impetus for seeking to find a workable solution to the current attrition rate. Currently, induction and mentoring are tools still used by many school districts, yet the retention rate of teachers has not improved. In light of the apparent failure of these tools, this study has made a case for utilizing other built-in supports, such as the physical structure of the school building, the organizational structure of the school faculty, and the creation of spaces for interaction to occur organically, in order to provide support for and to mentor novice teachers.

CHAPTER 2

LITERATURE REVIEW

This literature review highlights the current state of affairs and then explores three main areas of research. Firstly, research on teacher induction, as a means to retain teachers, is discussed; specifically the focus and goals, and the structure and format of induction programs. Secondly, literature on successful mentoring as an essential tool of induction is reviewed. This provides an overview of current research on mentoring practices, including the components, the structure, and the format of good mentoring programs. There follows a brief discussion of the contribution of induction and mentoring programs to teacher retention. Finally, literature on the adult learning process (teachers) provides a basis for the research conducted which explored how novice teachers learn to teach, through both formal and informal mentoring.

Current Teaching Situation

The current teaching situation in relation to teacher turnover, teacher quality, teacher recruitment, teacher preparation (including so called "alternative routes"), and teacher retention, provided the background for this research. These current issues were reviewed in order to illustrate the compelling need for renewed reform in the processes used for inducting new teachers into the profession.

Teacher Turnover

Teacher turnover and, more importantly, teacher attrition is a compounding factor in the current teaching situation in the US. Teacher turnover can be conceptualized in two ways, namely: the movers (part of turnover) who move from one school district to another (but remain in education); and the leavers (attrition) who leave teaching altogether. Turnover is a natural phenomenon in all professions and is considered an essential

component of the process of incorporating new ideas and setting new goals. Too little turnover could lead to stagnation, complacency, and less productivity. However, it is important to note that when staff turnover is so high that it affects the functioning of that profession through loss of expertise, and at a high financial cost, the system becomes stressed, and at times dysfunctional. In the US, the annual teacher turnover rate of 14% is relatively high when compared to other occupations (Ingersoll & Smith, 2004; Theobald & Gritz, 1996).

Attrition is the single largest factor in the turnover rate, resulting in the current teacher shortage in the US (Ingersoll, 2002; NCTAF, 2003). The common belief is that the nation is facing a teacher shortage, due to growing student enrollment, small class sizes, and teacher retirements (NCTAF, 2003). These reasons are commonly referenced, but do not tell the full story, and are often incorrect. Teachers leave teaching for a number of reasons. The National Center for Education Statistics (NCES, 2000) conducted a nation-wide study tracking 1992–1993 college graduates' teaching careers through 1997. When respondents were asked to list the top three reasons why they left teaching, 25% of new teachers said they quit within their first five years to pursue other careers, and another 24% said they left because they were either disinterested in teaching or were dissatisfied with teaching (NCES, 2000). Factors contributing to their dissatisfaction have been well documented in numerous research studies and include: basic working conditions; inadequate guidance and support from the administrators; low teacher salaries and benefits; student discipline problems; limited faculty input into school decision-making; low respect and prestige in the public domain intensified by media target and criticism; burnout; inadequate resources; classroom intrusions; inadequate preparation; isolation; poor student motivation; heavy teaching loads; and large class sizes.

Conversely, teachers who receive: more support and guidance from administrators; earn higher salaries; encounter fewer student discipline problems; have adequate resources and curriculum support; experience higher levels of autonomy; and have an influence over decision-making, are more likely to stay in teaching regardless of their personal characteristics or school demographics, such as age, gender, subject taught, school poverty, or school location (AFT, 2001; Darling-Hammond, 2003; Darling-Hammond & Sykes, 2003; Gold, 1996; Ingersoll, 2001; Johnson & Birkeland, 2002; Kauffman, Johnson, Kardos, Liu, & Peske, 2002; Kelley, 2004; Liu, Johnson, & Peske, 2004; NCES, 1997; NCTAF, 1996, 2003).

Overall, the nation produces enough teachers to meet its annual needs with the exception of the specific fields of Mathematics, Science, and Special Education. From 1984 to 1999, the number of new graduates earning degrees in education went up by more than 50% to 220,000 annually. In 1999, 160,000 of these graduates were new teachers with initial licenses, and of these newly prepared teachers, only 85,000 were actually hired during that year. In 1999, 232,000 teachers (new and experienced) entered the teaching profession, yet despite this, during 1999 there were 50,000 more leavers than entrants into the teaching profession. This resulted in a net decline in teachers in US classrooms (Ingersoll, 2001). Over 200,000 or 70% of all leavers left the profession for reasons other than retirement, which comprises an alarming attrition rate for the 1999–2000 year.

Ingersoll (2002) in his report, The teacher shortage: A case of wrong diagnosis and wrong prescription, determined that the attrition rate is getting worse and that the teachers leaving are mostly novice teachers. This in turn compounds the problem as 50% of all new "hirees" each year, are novice teachers.

Clearly the attrition rate in the US is alarming, and this loss has far-reaching consequences. School districts suffer financial losses, clearly illustrated by a recent study in Texas which estimated that the state's annual teacher turnover rate of approximately 15% costs the state at least $329 million a year, or at least $8,000 per recruit, (Texas Center for Educational Research, 2000). Critical resources, such as money, time, and personnel, needed elsewhere, are continuously used for further recruitment. Furthermore, the cost and investment that is required to prepare these newly recruited teachers should not be discounted in determining the ultimate cost of the loss of teachers due to attrition.

Attrition results in a huge financial loss to school districts, but more importantly, valuable teacher expertise and knowledge is also lost. Breaux and Wong (2003) reported on a study from the North Central Regional Educational Laboratory in which most superintendents in their regions stated that 75% to 100% of the teachers leaving were either "effective" or "very effective" in the classroom. Whatever valuable knowledge they had gained through their short tenure, was lost, and scarce resources were squandered trying to retrain the new recruits every year, who in turn, left before they become fully skilled (Darling-Hammond, 2003; NCTAF, 2003).

Furthermore, as a result of this loss of veteran teacher knowledge and expertise, remaining teachers are stretched thin. In urban schools, these more experienced teachers tend to seek more "desirable" teaching positions in affluent communities with lower attrition rates, and this trend continues to contribute to the "talent drain" away from the most needy schools (Olson, 2000). These schools need to spend further resources on professional development issues, such as instructional and curriculum improvement, as they are not able to develop their teaching community progressively from year to year (NCTAF, 2003; Oakes,J., Franke, M.L., Quartz, K.H., & Rogers, J. (2002).

The most significant cost of high teacher turnover and loss of expertise is the effect that this has on student achievement. Inexperienced teachers are less effective than senior teachers who have more experience and are more knowledgeable about curriculum, instruction, and assessment (NCTAF, 1996, 2003).

Education Reform Efforts Since 1996

The NCTAF report (1996) suggested that the nation should strive towards retaining good teachers, reforming teacher preparation, and improving teacher recruitment. Have these goals been met?

Teacher Quality

In 1997, Darling-Hammond prepared a report for the NCTAF entitled Doing What Matters Most: Investing in Quality Teaching that sought to gauge the nation's progress towards meeting the goals set by the commission to provide every classroom with a "highly qualified teacher." This is considered to be a critical requirement as teachers have such a great impact on student learning (Berry, Hopkins-Thompson, & Hoke, 2002; Darling-Hammond, 2003; Laczko-Kerr & Berliner, 2002; NCTAF, 2003; Wong, 2004). Teacher quality can explain as much as 40% of the difference among students' achievement levels (NGA Center for Best Practices, 2002). Darling-Hammond (1997) concluded that most schools/teachers cannot achieve the "highly qualified teacher" goal because they do not have systems that support them, and they do not know how to go about becoming "highly qualified." The current situation is dire. Darling-Hammond (1997) reported that, of all newly hired teachers, more than 25% do not have adequate teaching qualifications and nearly the same percentage of all secondary teachers currently teaching do not even have a minor in their teaching field. These "under qualified" teachers lack training in sound pedagogical practice and specific subject content

knowledge. A further compounding factor results from the obvious consequences of the current practice of making "out-of-field" placements. This is an accepted and common practice to counteract the shortage of teachers as it is a "legal" alternative and a much less costly alternative to finding fully certified teachers (Ingersoll, 1999). Nationally, "out-of-field" teachers are teaching 56% of all high school students taking Physical Science, 27% taking Mathematics, and 21% taking English. Research has suggested that teachers who are certified and teaching in the area in which they are certified, vastly outperform those who are less than fully certified, out of their field, and have no qualifications whatsoever (Darling-Hammond, Berry, & Thoreson, 2001). In addition, the least qualified teachers are most often found in high-poverty, predominantly minority, and urban schools. These students have a less than 50% chance of getting a Mathematics or Science teacher who has the appropriate license and a degree in the field in which they teach. In 1993/4 in wealthier districts, only 8% of teachers taught without a major or minor in their field (Darling-Hammond & Sykes, 2003). Oakes, et al (2002) also argued that besides the disparity in terms of "qualified teachers," there is a great need for more comprehensive induction programs to produce effective teachers for urban schools, where the attrition rate is highest (almost double the rate of that in other schools). Another complicating aspect identified in the NCTAF report (2003) is that currently, most American classrooms require teachers with a broad range of skills outside their subject area in order to deal with the diversity of learners in their classrooms. Therefore, in addition to the likelihood that 30% of all teachers are under qualified to teach the specific subject that they are currently teaching, the average classroom teacher could have up to one sixth of their students with specific educational needs for which they are not appropriately trained, or prepared to serve. Fifty-four percent of all teachers teach limited English proficient or culturally

diverse students, and 71% teach students with learning disabilities (NCES, 1999). These figures illustrate the magnitude of the challenge we face in order to "provide every student with a caring, nurturing and qualified teacher" (NCTAF, 2003). They also provided the rationale for this research, as it sought to identify the mosaic of informal mentoring that occurs and is essential in helping teachers learn to teach. Over the past 10 years, the nation has responded to the goals set by the NCTAF (1996) to improve the recruitment, preparation, and retention of good teachers in numerous ways.

Teacher Recruitment

The NCTAF (1996) acknowledged that recruitment of the best teacher candidates was an issue and an important factor in the nation's current teacher shortage. The commission recommended that the nation needed to "fix teacher recruitment and put qualified teachers in every classroom" (NCTAF, 1996, p. 88) by simply following five principles: 1) increase the ability of low wealth districts to pay for qualified teachers; 2) redesign and streamline district hiring; 3) eliminate barriers to teacher mobility; 4) aggressively recruit high need teachers and provide incentives for teaching in shortage areas; and 5) develop high-quality pathways to teaching for a wide range of people (NCTAF, 1996, pp. 88–94).

Responding to these recommendations, the NCTAF (2003) reported some marked improvements in the recruitment of new teachers. The average teacher's salary has increased (from $37,564 in 1996 to $43,250 in 2001); recruiting and hiring processes have been modernized (including using the Internet for online applications); and 48 states (as opposed to 32 in 1996) have committed to the National Association of State Directors of Teacher Education and Certification (NASDTEC) interstate contract, which grants license reciprocity among member states. Despite these attempts to resolve hiring issues,

however, researchers at the Harvard Graduate School of Education found that 33% of new teachers are hired after the school year has already begun and 62% are hired within 30 days of the new school year (Liu & Johnson, 2003). These hiring practices, often due to union contracts, where senior teachers within school districts are offered any new positions before they are opened to new hires, further illustrate the need for a comprehensive support network for teachers entering the workforce.

In order to develop pathways for a wider range of people to enter the teaching profession, a host of alternative routes to certify new candidates, ranging from those that meet high standards to those that are limited to only a few weeks of orientation (and often lead to high attrition rates), have also been introduced over the past six years (NCTAF, 2003; US Department of Education, 2002). Currently all but nine states have some form of alternative route to certification. A survey conducted by Education Week found that only 24 of the 50 states currently required any established standards or regulation of any alternative programs (Ansell & McCabe, 2003). In a study of alternatively certified teachers, Chesley, Wood, and Zepeda (1997) reported that 71% of the alternatively certified teachers they interviewed had received no intensive training before entering the teaching profession, and 11% failed to meet the minimum expectations of a first year teacher. Laczko-Kerr and Berliner's (2002) study compared the academic progress of students taught by under-certified teachers to that of students taught by traditionally certified teachers. The study determined that the first group of students was significantly disadvantaged. Students taught by regularly trained teachers gain up to two additional months of academic growth within one academic year in Mathematics, English, and Reading, in comparison with students taught by alternatively certified or under-certified teachers. Furthermore, these under-certified teachers are usually placed in districts where

there are many other under-certified teachers, or where there is a higher rate of attrition, thus compounding the impact that this would have on students within that school system over a period of time. Over a 12-year school career, students taught by uncertified teachers are disadvantaged by up to two years of quality teaching, a reality that these students and this country can ill afford (Darling-Hammond & Sykes, 2003).

The debate continues as to whether induction programs are effective in addressing the attrition rates, or whether they are simply a back door entrance into teaching, thus perpetuating the current problem and not necessarily improving the quality of teaching (Kennedy, 1991). Many believe that policies which allow "uncertified" and "under qualified" teachers to enter the classroom, rather than retaining high standards for the profession, are actually downgrading it (Laczko-Kerr & Berliner, 2002; Oakes et al., 2002; Wise, 1994). Secretary of Education, Rod Paige (in his Second Annual Report on Teacher Quality, 2003), claimed that many innovative alternative routes to teaching have been implemented over the past few years. Furthermore, he claimed that these alternative programs set high admission standards, recruit people from many different fields and, provide "rich school based training." He highlighted various innovative alternative routes to teaching, which he claimed attract more experienced professionals, males, and minority candidates. These alternative routes to teaching range from programs that encourage members of the military to transition into teaching, to the creation of the American Board for Certification of Teacher Excellence (created with a $5 million grant from the US Department of Education) to programs, such as Teach for America (TFA) and the Massachusetts Initiative for New Teachers (MINT) (Ingersoll, 2002; Oakes et al., 2002). Since 1990, the TFA has deployed more than 10,000 alternatively qualified graduates to disadvantaged schools with high teacher shortages. The Hoover Institution conducted a

study comparing TFA recruits with other new teachers, including "out-of-field placements," under-qualified, and unqualified teachers, in Houston schools. They found that students being taught Mathematics by TFA members finished 12% higher than students of other new teachers, and 60% of TFA teachers performed better than other new teachers in reading (Raymond & Fletcher, 2001).

Despite being able to recruit a variety of people into teaching, and the recent research supporting the quality of these teachers, some of these innovative initiatives have their flaws. Liu, Johnson, and Peske (2004) conducted a longitudinal study of the experiences of 13 of the original recipients of the Massachusetts Signing Bonus Program (MSBP). They found that within four years, eight of the 13 recipients had left teaching, and as such, never collected the full bonus to which they were entitled. Furthermore, Fowler (2003) found that by the beginning of the fourth year of teaching, 46% of the initial group had left teaching. So despite attracting many qualified professionals into teaching, and offering them a bonus of $20,000 to stay in teaching for four years, this was not enough to retain them. In Texas, the attrition rate for TFA recruits after two years is 80%. Alternative certification may be an improvement over simple emergency certification, which is available in 39 states. Some states have up to 17% of their teaching population working on emergency certification, with recorded attrition rates of up to 40% within a year. These teachers are hired because they can be paid less, are not necessarily provided any benefits, can be dismissed easily, and need not be provided with any support (Darling-Hammond & Sykes, 2003).

It is essential that we do not compromise teacher quality in our haste to recruit and certify teachers. As such, different certification processes should be reviewed in order to distinguish those that certify highly qualified teachers from those that produce less

qualified teachers (Laczko-Kerr & Berliner, 2002), and those that lead to retention as opposed to those that do not. The NCTAF adds:

> In view of the fact that the nation prepares a surplus of new teachers each year, it is time for teacher preparation to become more selective. The Commission has concluded that the perception of "teacher shortages" is no justification for reducing standards to expand the pool of candidates for entry to the teaching profession. Substandard teacher preparation contributes to the high turnover and attrition that is diminishing teaching quality in too many of our schools. The nation should consider whether it would be better served by investing the current level of teacher preparation resources in fewer candidates, who can be prepared to meet consistently high standards. (NCTAF, 2003, p. 76)

The "key issue for the commission is not how new teachers are prepared, but how well they are prepared and supported" (NCTAF, 2003, p. 74).

Teacher Preparation

In 1996, the NCTAF report found that only 500 of the nation's 1,200 schools of education met common professional standards, and fewer than 75% of all teachers had studied child development, had appropriate expertise in learning and teaching methods, had degrees in their subject areas, and had passed state licensing requirements.

Accreditation was recommended as the primary vehicle for quality control of teacher education programs. The National Council for Accreditation of Teacher Education (NCATE) has established partnerships with 48 states, developing a challenging standard for teacher education programs, which are aligned with model standards for novice teachers created by the Interstate Teacher Assessment and Support Consortium (INTASC) and standards set by the National Board for Professional Teaching Standards (NBPTS). In 1996, there were 481 NCATE accredited institutions in the country, and by 2002, there

were 548 with another 112 currently applying to become accredited institutions. There were only 12 professional standards boards in 1996, and currently 29 states have boards that are either independent boards of standards and/or practice, semi-independent boards, or advisory boards for standards and/or practice.

Some of the programs Secretary Paige highlighted in his report (2003) focus on the development of school-university partnerships, which address teacher education and professional development for all faculty, while other programs focus specifically on recruiting Mathematics and Science teachers. Furthermore, some programs provide subject specific pedagogy courses and include opportunities for their students to spend many hours in classrooms with veteran teachers. However, a national survey (2000) of public school teachers with less than five years of experience found that 62% of respondents felt that their preparation programs did a "fair to poor" job of preparing them for the real world of teaching. Research has suggested, however, that despite the fact that many teacher education programs are considered inadequate (Huling-Austin, 1992), there is value added by teacher preparation, including the positive effects of clinical experiences, and field-work (Laczko-Kerr & Berliner, 2002). Merrow (1999) argued that the problem is simply that we continue to train teachers badly, and then treat them badly, so that they then leave the profession in droves.

While it is evident that colleges and universities graduate enough teachers to meet the national classroom instructional needs each year, it seems imperative that we conceptualize teacher education as a process of learning that extends beyond the formal academic process, and acknowledge that professional in-service support is a necessary requirement. Most existing induction programs rely on traditional behaviorist notions that ignore the social, dynamic, and generative quality of learning that can support the

development of competencies needed in today's schools and that will help novice teachers become qualified teachers (Oakes et al., 2002). Darling-Hammond and Sykes (2003) reported that two thirds of all novice teachers who have not been through rigorous teacher preparation programs, and who lack student teaching, leave the profession within the first year. The implications are that while we are attempting to address the challenges and goals set out in the NCTAF report in 1996, the needs and gaps seem to be increasing, and as the NCTAF report in 2003 stated, our current problem seems to be teacher retention.

This review of the current state of affairs suggests that teachers are either "under-prepared" or "differently-prepared" and, as such, provides further impetus for seeking innovative and organic support for these teachers in the schools as they begin teaching.

Teacher Retention

As identified in the NCTAF report (2003), retention of teachers is the main challenge in the US as we attempt to staff the nation's classrooms with highly qualified teachers. It is widely believed that a systematic process of training and supporting new teachers will increase retention (Breaux & Wong, 2003; Darling-Hammond, 2003; Darling-Hammond & Sykes, 2003; Ingersoll, 2002). Wilkinson (1994) reported that 95% of novice teachers who experienced support during their initial years remained in teaching after three years, and 80% of the supported teachers remained in teaching after five years. Rethinking New Teachers, Inc. (1999) reported that a growing number of poorer urban districts are turning to induction programs to retain new teachers, and some districts have reported a 93% retention rate for teachers who participate in such programs. Reports differ, but somewhere between 50% (Darling-Hammond, Berry, Haselkorn, & Fideler, 1999) and 80% (Ingersoll & Smith, 2004) of teachers engage in some form of initial induction experience. These induction experiences/programs and the supports they

provide for novice teachers vary considerably (Ingersoll & Smith, 2004), ranging from superficial "one-day" activities to very intensive programs built into the professional development program of the school district. In light of the numbers of teachers currently exposed to these programs, it is essential that induction be a meaningful experience that has lasting effects on teacher quality and retention (Ingersoll & Smith, 2004; Kelley, 2004).

Induction

Induction, as a means to prepare new teachers adequately and retain them, is a tool that is gaining popularity in many states. This literature review includes reports, research articles, manuals, and books written about many different induction programs, but specifically focuses on research conducted on the following five induction programs which are considered to be highly effective in terms of retaining quality teachers.

One of the earliest induction programs began in 1985 in Tucson, Arizona,as part of a larger encompassing professional development program, and it continues to this day. Flowing Wells, a small suburban school district in Tucson, comprised of eight schools, where over 50% of students are eligible for free or reduced-rate lunches, has given induction its top priority. The Teacher Induction Program for Success (TIPS), spans eight years of induction and professional development, and takes teachers through five stages in their teaching career (novice, advanced beginner, competent teacher, proficient teacher, and expert teacher), based on Dreyfus and Dreyfus' stage model of skill acquisition described in Humans, Machines, and the Structure of Knowledge by Harry M. Collins, 1995. This school district has produced 12 Arizona teachers of the year! Educators from around the country visit the district to attend annual workshops on how to implement a

similar program in their own districts (Wong, 2002, 2004, 2005; Wong & Asquith, 2002), evidence that successful induction program models are in high demand.

The Louisiana Teacher Assistance and Assessment Program (LaTAAP) began in 1994 as a state-mandated program designed to assist and support new teachers and mentors. In 1996, the Lafourche Parish Public Schools in Louisiana instituted the Framework for Inducting, Retaining, and Supporting Teachers (FIRST) program as an extension of the state-provided LaTAAP. FIRST has developed into a state-wide program, from an initial four-day workshop to three full years of ongoing training and support. The program relies on the combined efforts of all the stakeholders in the district: the superintendent, central office, teachers, students, administrators, curriculum coordinators, site-based instructional facilitators, parents, school board members, community members, and the faculty of the education department at Nicholls State University (Breaux & Wong, 2003; Louisiana Department of Education, 2005; Wong, 2002, 2005; Wong & Asquith, 2002). During 2001 and 2002, this school system lost only one out of every 46 teachers hired, and over the past four years, only 11 of the 279 teachers hired have left teaching (Wong, 2004), as opposed to eight years ago when they were losing almost half of their new hirees (Wong & Asquith, 2002). This program provides adequate evidence that a comprehensive induction program can stem the tide of teacher attrition!

In Santa Cruz, the New Teacher Project (SCNTP), a collaborative effort between the University of California at Santa Cruz's Teacher Education Program, the Santa Cruz County Office of Education, and nearly 30 school districts in the greater Santa Cruz and Silicon Valley Area, has been providing support for novice teachers (Berry, Hopkins-Thompson, & Hoke, 2002; Feiman-Nemser, 2001b; Wong, 2004). They have successfully achieved their goal of improving and retaining quality teachers (Strong & St John, 2001),

and research conducted on this program was instrumental in the creation of the state funded program – the Beginning Teacher Support and Assessment System (BTSA) – in California (Moir & Bloom, 2003; Wong & Asquith, 2002).

The 145 BTSA programs, delivering teacher induction programs, vary in organizational design and include individual districts, districts in collaboration with one another and with colleges and universities, and large consortia in which districts, colleges, universities, and county offices of education work together. BTSA programs use a variety of methods to provide early-targeted support, based on performance data, to novice teachers (AFT, 2001; Darling-Hammond & Sykes, 2003; Feiman-Nemser, 2001b; Moir & Bloom, 2003; Strong & St John, 2001). According to Darling-Hammond (2003) and Strong and St John (2001), early studies on this program indicate that novice teacher retention exceeds 90% in the first few years.

Another state-wide induction program that specifically utilizes mentoring as a major component, and which has received national acclaim, is the Connecticut Beginning Educator Support and Training program (BEST). The purpose of the BEST program is to provide novice teachers with mentoring and other forms of support during their first two years of teaching (Darling-Hammond, 1997, 2003; Feiman-Nemser, 2001b; Wong, 2004; Youngs, 2002). Despite being a state-wide program, BEST encourages individual district program implementation. According to Youngs (2002), teaching standards have increased significantly and a marked improvement in teacher retention has been reported throughout the state. This multi-year program focuses specifically on teacher effectiveness and student learning (Wong, 2005).

Focus and Goals of Induction Programs

The goals, purpose, structure, and format of each program depend on a variety of factors; however, there seems to be general consensus that various local stakeholders must be "on board" for these programs to be effective (Eggen, 2002; Feiman-Nemser, 2001b; Hare & Heap, 2001; Harmon, 2003; Johnson & Kardos, 2002; Kardos, 2003; NCES, 1999; Wong 2002, 2004). Some authors have also suggested that there should be a national teacher supply policy to tackle the problem of teacher retention (Darling-Hammond & Sykes, 2003; Harmon, 2003). At the local level, the mandating or financing of teacher induction by state departments of education, seems to have a profound impact on how districts implement their induction programs (AFT, 2001; Weiss & Weiss, 1999), and this increases the likelihood that there will be coherent and organized programs. The level of state vision and support differs widely with some states mandating induction and funding it, others merely setting guidelines with no resources or funding, and others having no focus on teacher induction at all (NCES, 2000; Wong & Asquith, 2002). No two induction programs are therefore alike, as the educational philosophy of each school district determines the goals of its induction program (Wong, 2002). Most of the induction programs reviewed are informed by the state, district, and school administration's philosophy and informing belief about education and its purpose, as well as the needs of the community and its students (Huling-Austin, 1989; Ingersoll & Smith, 2004; NCTAF, 1996; US Department of Education, 1997; Weiss & Weiss, 1999; Wong, 2002, 2004). Furthermore, good induction programs are also flexible, meeting a variety of novice teachers' needs as they develop throughout their first few years, and are not structured around the assumption that all new teachers develop in a fixed manner (Wilkinson, 1994).

Goals set by various induction programs generally fall within four themes/topics, namely: transition, retention, quality teaching/learning, and assessment.

Transition

Transition into teaching is considered one of the most important goals for all induction programs on the different levels as outlined below.

Transition from Student Teacher to Novice Teacher

Induction is a supportive process that should start within the last two years of college, (Huling-Austin, 1989; Ingersoll & Smith, 2004; Williams & Williamson, 1996; Wong, Britton, & Ganser, 2005), enabling novice teachers to transition from "student of teaching" to "teacher of students" (Feiman-Nemser, 2001b). This support should be a collaborative effort by the school of education faculty, community, district and school administrators, more seasoned colleagues in the school building, and the novice teachers themselves (Breaux & Wong, 2003; Darling-Hammond & Sykes, 2003; Harmon, 2003; Huling-Austin, 1989; Kardos, 2003; Wong, 2002, 2004). Odell and Ferraro (1992) have suggested that emotional and instructional support through this transition period is more helpful than assistance with the "mechanics" of teaching, such as finding supplies, dealing with discipline problems, communicating with parents, and managing the school day.

Transition from Novice Teacher into Veteran Teacher

Novice teachers should continue to be supported as they progress through and beyond their first few years (Darling-Hammond & Sykes, 2003; Kardos, 2003; US Department of Education, 1997; Wong, 2002, 2004). Research has illustrated that many teachers leave teaching in their third year, and that this trend tends to level off after seven years of teaching (Ingersoll, 2001). Thus, it is important not to leave these novice teachers to fend for themselves beyond an initial induction year. Induction should lead to a life-

long professional development process (Kelley, 2004; Wong, 2002, 2004, 2005). Sustained support is essential if we wish to retain good teachers and present them with growth and learning opportunities throughout their career (Brennan, Thames, & Roberts, 1999).

Transition into the School and Community Culture

Many teachers find themselves teaching in communities that are very different from their own schooling, or teacher education programs (Huling-Austin, 1989). Research has indicated that some induction programs have the explicit goal of "transmitting the district and community culture" to the new teachers, in order for them to become sensitive to, and able to understand, the community in which they teach (US Department of Education, 1997; Wong, 2001, 2002, 2005; Wong & Asquith, 2002). Well-planned induction programs provide novice teachers with opportunities to connect with local community members, forge networks within the community and school, and thereby create bridges between the community and school, which ultimately will enhance teaching and learning for all (Harmon, 2003; Wong, 2004).

Once these teachers are transitioned into the community and schools, the next step for districts is to retain these teachers. It has been clearly illustrated that the current rate of teacher attrition is counterproductive in terms of financial loss, loss of expertise, and the ultimate loss of good teaching and learning.

Retention

The goals of most induction programs include the retention of good novice teachers, the retention of highly qualified veteran teachers, the retention of teachers in "hard to staff school districts," and the retention of teachers in critical subject areas (Brennan, Thames, & Roberts, 1999; Strong & St John, 2001; Wong, 2003).

Retaining Good Novice and Highly Qualified Veteran Teachers

Many induction programs have retention of both novice, and highly qualified veteran teachers, as one of their highest priorities (Eggen, 2002; Gratch, 1998; Huling-Austin, 1989; Kelley, 2004; Oakes, Franke, Quartz, & Rogers, 2002; Strong & St John, 2001). The induction programs reviewed show a marked increase in their retention rates of teachers if they participate in comprehensive and long lasting induction programs (Breaux & Wong, 2003; Moir & Bloom, 2003; Wong, 2004). The most effective programs with respect to retaining their teachers are those which provide formal induction programs embedded in the professional culture of the schools where both veterans and novices are valued, and there is a collective responsibility for defining the school culture, and teaching and learning (Darling-Hammond & Sykes, 2003; Johnson & Kardos, 2002; Kardos, 2003; Wong, 2004).

Retaining Teachers in "Hard to staff" School Districts

Some high-risk districts have very specific goals for retaining all teachers in their schools as many leave these mostly urban, low-income districts to teach in wealthier districts where there are more resources and better teaching conditions (Darling-Hammond, 2003). One way to keep good teachers in these "hard to staff" school districts is to offer the more seasoned teachers professional development opportunities, as leaders in the induction program, thereby developing a cadre of colleagues who can help novices and keep developing in their own right (Darling-Hammond, 2003; Huling-Austin, 1989). These teachers are offered opportunities to be mentors or to conduct professional development sessions within their schools (Johnson & Kardos, 2002). In some programs, veteran teachers are recruited to become district mentors or subject/portfolio advisors for a year or two (Feiman-Nemser, Carver, Schwille, & Yusko, 1999; Kennedy, 1991). These

new experiences enrich their teaching and learning, and make them more effective teachers when they return to the classroom (Brennan, Thames, & Roberts, 1999; Feiman-Nemser, 2001a). This has a snowball effect: as more teachers hear about these good teacher-driven induction programs, they are more likely to apply to these districts for teaching positions (Darling-Hammond, 2003).

Retaining Teachers in Critical Subject Areas

Some induction programs explicitly seek to attract and retain teachers in particular subject areas, such as Mathematics, Science, Special Education, and Bilingual Education, where there are currently tremendous shortages of teachers (Darling-Hammond & Sykes, 2003; US Department of Education, 1997). Some districts have teamed up with faculty in specific departments at local institutions of higher education to provide, and then mentor, teachers in these subject areas. Other districts have elected to pay teachers in critical subject areas a higher salary and hope that in so doing, they will keep these teachers in their districts, but Odden (2002) has reported that teachers are uncomfortable with this pay differentiation.

Quality Teaching and Learning

Induction programs should be framed with the vision of good teaching and learning in mind (Breaux & Wong, 2003; Wong, 2002, 2004). If schools are able to retain their teachers for a long enough period they will be able to reap the benefits of these teachers' knowledge and skills, and this will greatly increase their ability to improve the quality of learning for their students. Induction programs should focus on improving novice teachers' instruction and competency, improving veteran teachers' instruction and proficiency towards mastery, and improving student learning.

Improving Novice Teachers' Instruction and Competency

Most induction programs have the specific goal of producing effective teachers (AFT, 2001; Breaux & Wong, 2003; Huling-Austin, 1989; Moir & Bloom, 2003; Wong, 2004). In order to be effective, novice teachers need to learn about the expected goals and outcomes of the students they teach; the curriculum frameworks for the grade level and subjects they teach; the materials and resources available; and how to access and use these effectively (Feiman-Nemser, 2001b). Effective induction programs should go further focusing on "survival" strategies (Feiman-Nemser, 1983), and should be designed to help novice teachers learn to examine student learning; construct and apply instructional knowledge; and reflect on their practice (Breaux & Wong, 2003; Brennan, Thames, & Roberts, 1999; Odell, 1986; Wong, 2002).

Improving Veteran Teachers' Instruction Towards Mastery

Effective induction programs institute intensive professional development opportunities for their veteran teachers (Darling-Hammond & Sykes, 2003; Kelley, 2004; Wong, Britton, & Ganser, 2005), as well as their novice teachers. Programs should encourage critical and thoughtful conversations about pedagogy, teaching and learning practice, and furthermore, provide emotional support for veteran teachers as well, given that many teachers teach outside their subject area or grade level (Feiman-Nemser, 2001a; Johnson & Kardos, 2002). Furthermore, the demographics of the American student body have changed dramatically over the last few years creating a cultural gap between the faculty and the students. There is, therefore, a dire need for opportunities for veteran teachers to explore more inclusive teaching techniques, and new approaches to assessment. Workshops dealing with diversity issues such as culture, language, ethnicity,

and racial sensitivity are also essential in order to increase teacher effectiveness (Darling-Hammond, 2003; Feiman-Nemser, 2001b).

Improving Student Learning

Improved student learning is a goal included in almost all induction programs (Wong, 2005), and teacher development is seen as pivotal to student success (Brennan, Thames, & Roberts, 1999; Moir & Bloom, 2003). Research has indicated that schools and districts which have quality teaching as their focus, set specific goals to help teachers improve their teaching; connect with their students; learn new teaching techniques; and learn effective classroom management strategies in order to improve student learning (Wong, 2002, 2005). If we want schools to produce more powerful student learning we have to offer more powerful learning opportunities for teachers (Feiman-Nemser, 2001b).

Assessment

Researchers are divided on the role that assessment of novice teachers should play in induction programs. Some programs are linked to the novice teachers' meeting of standards for initial certification, and performance standards for continued certification (AFT, 2001). Programs in the US tend to emphasize assessment, although many do focus on formative assessment, and in so doing assist novice teachers and encourage them to set and reflect on their own goals (Feiman-Nemser, 2001b; US Department of Education, 1997; Wong, 2005). Feiman-Nemser (2001b) and Huling-Austin (1989) believe that induction programs should not have to choose summative assessment ahead of formative assessment, as the latter provides both assessment and continued support, which is crucial to all.

Structure and Format of Induction Programs

Induction programs have various goals, and it is essential to identify these (Blair-Larsen, 1998; Ingersoll & Smith, 2004), as they tend to determine the nature and format of the program (US Department of Education, 1997). Most programs call for a multi-year, integrated approach (AFT, 2001; Wong, 2004; Wong & Asquith, 2002) based on partnerships between universities, school districts, schools, veteran teachers, the community, and novice teachers (Feiman-Nemser, 2001b). The structure and format of the induction programs reviewed contain some fundamental similarities, but with individual districts "tailoring" their programs to suit their prioritized goals and individual district needs. Research has indicated that the following elements are essential if induction programs are to be considered successful: orientation; inclusion of multiple participants; socialization of and continued support for novice teachers; assessment/evaluation of the induction program; and informal support systems.

Orientation

An orientation to the school district was part of all the induction programs reviewed, followed by an orientation to the individual schools, and in some cases to the subject area or grade level departments/teams (Blair-Larsen, 1998; Huling-Austin, 1989; Wong & Asquith, 2002). These consisted of an intensive two-to-four day training period immediately prior to the start of the school year (Scott, 2001; Wong 2002; Wong & Asquith, 2002). In some cases these sessions were voluntary with stipends offered to teachers attending, and in other cases they were mandatory for all new teachers to the district (novice teachers and veterans moving into the district) (Ingersoll & Smith, 2004). Most programs were led by, or at least informed by, veteran teachers from the district who had undergone training prior to the orientation sessions.

Inclusion of Multiple Participants

Currently, state policies differ widely as to who participates in induction programs. The AFT (2001) has reported that several states offer successful programs which tend to include all new teachers whether they are licensed through the traditional route or not, and involve people from all levels of the educational spectrum (Wong, 2005). California's state-wide induction programs for new teachers, exempt "pre-interns" who have no background and training in teaching (AFT, 2001). Furthermore, induction programs should be a time for district personnel, veteran colleagues, parents, and members of the community to work hand in hand with school administrators in welcoming the new teachers to the district and in sharing their vision and goals.

Socialization of and Continued Support for Novice Teachers

After an initial, most often generic, orientation session, novice teachers need to participate in a structured training program that meets their individual needs (AFT, 2001; Breaux & Wong, 2003; Johnson & Kardos, 2002; Kardos, 2003; Wong, 2004). All novice teachers go through an initial "survival" phase, but research has strongly supported the notion that novice teachers can, with a good supportive system, move beyond this phase, and begin reflecting on instruction and their own professional growth (Feiman-Nemser, 2001a; Stroot et al., 1999). An intensive two-to-four year induction program is a hallmark of many of the induction programs reviewed. The programs' foci vary, depending on the stage and development of the novice teachers, as well as the length of the program at each school. Programs imbedded in the professional culture of the school include monthly meetings or workshops conducted by veteran teachers, for both novices and veterans, and they are seen as essential for the development of all faculty (Johnson & Kardos, 2002; Kardos, 2003; Wong, 2004, 2005). If they are well designed, these programs can also be

instrumental in creating a collegial environment, and promoting teamwork, where sharing and professional development are part of the school culture (Wong, 2002).

Assessment/Evaluation of the Induction Program

In order to ascertain whether an induction program is meeting its goals, it is essential that systematic evaluation of each component of the induction process should be conducted (Blair-Larsen, 1998; Kelley, 2004). Programs have instituted various forms of assessment, including: journal entries, interviews (Blair-Larsen, 1998; Kelley, 2004), surveys (Kelley, 2004), and classroom observations (Kelley, 2004). These results are often used to inform the format of the program for the next intake of novice teachers (Kelley, 2004).

Informal Support Systems

Although there is a need for further research on informal support in learning to teach, a review of the literature (and my study) has indicated that learning to teach is something that happens within formal programs, as well as in "informal" spaces created within the schools. Many novice teachers have reported learning their most valuable lessons simply by engaging with veteran teachers in various situations. In reality, this continues to reflect the experience of countless novice teachers, illustrating that there is still a mismatch between what novice teachers need and what many current induction programs offer (Bell & Miraglia, 2003; Johnson & Kardos, 2002). Thus, the induction programs reviewed for this study provided, as an element of their induction program, intensive mentoring from "expert" teachers within the same school and subject area if at all possible (Kelley, 2004).

Mentoring

An induction program needs to be tailored to meet the individual needs of each novice teacher (Gratch, 1998; Wildman, Magliaro, Niles, & Niles, 1992). A skilled mentor is an essential component of an effective induction program, and provides the individualized support necessary for the transition from a novice teacher into a skillful and functional teacher (Bell & Miraglia, 2003; Feiman-Nemser, 2001a; RNT, 1999; Wong, 2005).

Motivation for Mentoring

Mentoring was an explicit part of a broad movement that aimed at improving education in the early 1980s (Feiman-Nemser, 1996). During this time, policymakers decided that providing on-site support and assistance seemed like a logical step toward, and a necessary component of, educational reform that aimed at decreasing the attrition rate of novice teachers (Little, 1990).

Concerns and needs of novice teachers have been well documented and fall within three broad categories. Firstly, in order to provide a smooth entry into the school system, some basic or "survival" needs emerged, such as: information on the school district and community (Odell, 1986); classroom materials and teaching supplies (Odell, 1986; Wilkinson, 1997); texts; and curriculum and objectives (Wilkinson, 1997). Secondly, unless these primary issues of "survival" were taken care of, novice teachers were unable to move toward dealing with instructional concerns, such as classroom management issues (Colbert & Wolff, 1992; Stroot et al., 1999), and teaching practice (Huling-Austin, 1989). Finally, novice teachers expressed the need for supportive assistance from the district, as well as for a systematic flow of information from the district, through the

administration, to the teachers (Bell & Miraglia, 2003; Colbert & Wolff, 1992; Wilkinson, 1997).

Working with Feiman-Nemser and Parker's (1993) research findings on the role of mentoring in the US as a framework, it appears that most novice teacher mentoring programs in the US can actually be clustered into four broad and sometimes overlapping categories. The first three, namely, directive mentoring, facilitative mentoring, and transformational mentoring, confirm the findings of Feiman-Nemser and Parker (1993). The fourth, namely, empowerment mentoring, emerged from this literature review and my participation in Quality Urban Education and Support for Teachers, an induction program for teacher graduates in urban settings involving seven higher education institutions in Massachusetts.

Directive Mentoring Practices

Directive mentoring practices view mentors as local guides whose primary responsibility is to smooth the transition for novice teachers into the teaching profession (Ballentyne & Hansford, 1995; Carver & Katz, 2004; Feiman-Nemser & Parker, 1993; Gold, 1996; Ingersoll & Smith, 2004). This top-down approach implies that mentors are considered to be expert teachers or trusted counselors, who will work with "raw goods" to develop the novice teachers into a "finished product" (Abell, Dillon, Hopkins, McInerney, & O'Brien, 1995; Gold, 1996). The support provided is personal and ranges from simply being a good listener to offering daily support, advice, and counsel to the novice teachers (Ballantyne & Hansford, 1995; Ganser & Koskela, 1997). On the other hand, mentors also provide task-related support, in order to help the novice teachers survive the first few weeks by sharing of teaching resources, discussing particular policies and procedures to be followed, and sharing advice on teaching practice, lesson plans, and assessment

standards (Ballantyne & Hansford, 1995; Blair-Larsen, 1998; Carver & Katz, 2004). This mode of mentoring is informed by the mentor and their perspective on the novice teacher's needs (Brennan, Thames, & Roberts, 1999; Odell & Ferraro, 1992). Mentors usually adapt their practices to suit the individual novice teacher's needs and decrease their involvement as the year progresses, and as a result the novice teacher gains confidence and independence (Ballantyne & Hansford, 1995; Feiman-Nemser & Parker, 1993).

Facilitative Mentoring Practices

Facilitative mentoring practices view mentors as educational companions (Feiman-Nemser & Parker, 1993), who initially help novice teachers to resolve immediate problems, and focus on novice teachers' individual needs. As the novice teachers gain confidence, the relationship changes into one of colleagues who delve into educational issues of teaching and learning together, and the trust that develops enables the mentor to give critical essential feedback (Abell et al., 1995; Ballantyne & Hansford, 1995). The mentor is considered to be an encourager, counselor, befriender, confidant or co-worker, rather than a guide or an expert (Abell et al., 1995; Gold, 1996). Together they use questions, lesson modeling, observations, and feedback in order to further explore and develop the novice teacher's expertise and assist with the formulation of sound reasons for their educational decisions (Abell et al., 1995; Ballantyne & Hansford, 1995; Feiman-Nemser & Parker, 1993; Moir & Gless, 2001). Facilitative mentors encourage novice teachers to move beyond focusing on how they teach, and to focus on how to improve student learning (Ballantyne & Hansford, 1995; Berry et al., 2002), and to think about the impact of their practice on the students (Feiman-Nemser & Parker, 1993).

Transformational Mentoring Practices

Transformational mentoring practices view mentors as agents of change who help to break down the traditional isolation of schools, by fostering norms of collaboration and shared inquiry within the school (Feiman-Nemser, 2001a; Feiman-Nemser & Parker, 1993). This collaboratively guided practice values both the mentor and the novice teacher as integral members of the learning team (Darling-Hammond et al., 1999). Furthermore, as mentors identify needs they themselves cannot address, they can provide linkages to colleagues within the building, and the larger community of educators outside the school (Alliance for Excellent Education, 2004), thus providing the novice teacher with a network of support (Gold, 1996).

The role of mentors is also highly dependent on the context in which mentoring takes place. One such contextually sensitive program, The Quality Urban Support for New Teachers project (Alkins, Banks-Santilli, Elliot, Guttenberg, & Kamii, 2006) was developed to address the isolation of novice teachers in urban schools in seven school districts in Massachusetts. The encompassing methodology was designed to create a safe place for novice teachers to share and to learn. The first year was primarily spent designing a three-year program, by collaboratively determining the novice teachers' needs and concerns. My involvement in this program over the past three years, and research literature on current mentoring practice, has led me to propose a fourth perspective on the role that mentoring can play, namely, empowerment through mentoring.

Empowering Mentoring Practices

Empowering mentoring practices view mentors as peers who help novice teachers to develop the tools and expertise to know their community and their students, and to be able to understand the complex relationships between work inside the classroom, and

those forces outside the classroom that influence their work (Ganser, 1995). In this model, mentors and novice teachers alike seek to enact teaching and learning strategies that address the inequities in society. Furthermore, mentors encourage novice teachers to think about their identity as teachers, as role models, and as members of the larger community and society, and to explore how this impacts their teaching and their relationships with students. Novice teachers reciprocally encourage mentors to connect with the more modern and contemporary educational practices pioneered and encouraged at universities, and to share their newly acquired knowledge in a reciprocal learning and empowering manner. This shared learning helps novice teachers in this transition and encourages them to retain these new and exciting ideas, rather than simply abandoning them within a few years due to burn-out or negativity within the school or district.

The mentoring practices discussed above offer a solution to counteract the current trends in teacher attrition. Currently, in more than 30 states, mentoring predominates (Britton, Raizen, Pain, & Huntly, 2000) with one-on-one mentoring serving as the sole support for novice teachers, without any real structure or institutional support. Too often, however, mentoring as a stand-alone recipe for successful new teacher support is proposed, and is deemed to be too narrow an approach (Wong, 2005). As such, it is vital to establish what good mentoring practices are, and how the school ecology can be structured to support these novice teachers, if no other induction is provided.

Components of Good Mentoring Programs

The literature suggests that three very distinct mechanisms need to be in place in order for mentoring to be a successful component of any induction program, namely, recruiting of mentors, training of mentors, and support of mentors.

Mentor Recruitment

Good classroom teachers do not necessarily make good mentors, as this role requires adults to work with adults (Cochran-Smith, 1991; Ganser, 1995; Gratch, 1998; Kennedy, 1991; Moir & Gless, 2001). A rigorous recruitment and selection process is an essential part of providing effective support for novice teachers (Alliance for Excellent Education, 2004; Berry et al., 2002; RNT, 1999; Gold, 1996; Kelley, 2004; Little, 1990; Moir & Bloom, 2003; Moir & Gless, 2001; NCTAF, 1996). It is imperative that the entire process is considered credible and valid within the school system. As such, all stakeholders should be involved at some stage of this process, including the superintendent's office, administration leaders, mentoring directors or coordinators, peers, and possibly the teachers' union (Abell et al., 1995; Alliance for Excellent Education, 2004; Feiman-Nemser & Parker; 1993; Freiberg, Zbikowski, & Ganser, 1997). Many programs require a formal written application process, which includes letters of recommendation from the candidate's principal and colleagues, a writing sample, evidence of professional development, and leadership roles assumed within their schools (Alliance for Excellent Education, 2004; Feiman-Nemser & Parker, 1993; Freiberg et al., 1997; Ganser & Koskela, 1997; Gold, 1996; Moir & Bloom, 2003; US Department of Education, 1997).

Candidates for mentorship should have a minimum of five to seven years experience as a classroom teacher, preferably in the same level and/or content area as the novice teacher, and with past experience in coaching peers or supervising students/student teachers (Abell et al., 1995; Alliance for Excellent Education, 2004; Ballantyne & Hansford, 1995; Ganser & Koskela, 1997; Gold, 1996; Huling-Austin, 1992; Kennedy, 1991; Moir & Bloom, 2003; NCTAF, 1996). Furthermore, mentors should be considered,

by their peers, to be an expert in both the classroom and the content area, and have a record of good classroom management, coupled with the ability to be flexible and respectful of individual differences (Alliance for Excellent Education, 2004; Berry et al., 2002; Feiman-Nemser & Parker, 1993; RNT, 1999; Gold, 1996; Moir & Bloom, 2003; Moir & Gless, 2001; NCTAF, 1996). Mentors need to be able to network within the school to provide a mosaic of support for their novice teachers and, as such, they should have strong interpersonal communicative skills; be good team members; and be recognized as educational leaders within their respective school communities (Feiman-Nemser & Parker, 1993; Gold, 1996; Moir & Gless, 2001; NCTAF, 1996).

Furthermore, mentors will need to be reflective practitioners, willing to reflect on and analyze their own teaching, as well as that of the novice teacher that they work with (Ballantyne & Hansford, 1995; Gold, 1996). In order to provide the necessary link between a generic induction program and the individual novice teachers, mentors will be called on to be professionally and personally supportive as they identify the novice teachers' needs and stresses, and develop strategies and goals to help the novice teachers develop (Gold, 1996; Gold & Roth, 1993).

During the recruitment process, it is essential to state the specific goals and informing ideologies of the district and its mentoring program clearly (Wong, 2005). Simultaneously, it is important to investigate the expectations that the mentor has of the mentoring process, and to explore the mentor and the protégé's expectations of mentoring, prior to matching mentors and novices (Gratch, 1998). The ability, ease, and willingness of the mentor to clearly articulate and openly share his/her expectations for the mentoring relationship will have a profound and positive impact on the mentees. These over-arching

goals will determine the types of mentors recruited, as well as the focus of the training required.

Mentor Training

Schools currently function within largely conservative traditions as individualistic and egalitarian social organizations, and this framework shapes the mentoring roles and novice teachers' practice (Gratch, 1998). Well-prepared and supported mentors can play a critical role in counterbalancing this status quo, transforming school cultures, and influencing, shaping, and challenging novice teachers' practice in educative ways (Bey & Holmes, 1990; Brooks, 1987; Carver & Katz, 2004; Gratch, 1998; Huling-Austin, 1989; Smith, 1993). Successful mentoring programs depend on the quality of the mentor (Feiman-Nemser, 1996) and research has indicated that training of mentors is the next critical step in this process (Alliance for Excellent Education, 2004; Ballantyne & Hansford, 1995; Berry et al., 2002; Darling-Hammond & Sykes, 2003; Feiman-Nemser, 1996; RNT, 1999; Gratch, 1998; Kelly, 2004; Moir & Bloom, 2003; Moir & Gless, 2001).

Trainee mentors need to develop new skills, based on adult learning theories (Abell et al., 1995; Colbert & Wolff, 1992; Feiman-Nemser, 1996; RNT, 1999; Freiberg, Zbikowski, & Ganser, 1997; Gratch, 1998). In a recent literature review, Wang and Odell (2002) identified three models currently used for training mentors. My own, more recent, review of the literature indicated additional dimensions to each of these models. Below I have explored the three broad conceptual models as posited by Wang and Odell (2002), and have included research that supports, enriches, and expands their original notions. Training conducted within each of these models can be firmly linked to current mentoring practices outlined previously.

The Knowledge Transmission Model

In this model, prior to working with novice teachers, mentors would ideally be trained by a variety of trained stakeholders, including state instructors, district personnel, university faculty, current mentors, and mentor program coordinators (Alliance for Excellent Education, 2004; Berry et al., 2002; Freiberg, Zbikowski, & Ganser, 1997) to understand well-researched, prescribed mentoring skills, which help the novice teachers to develop a set of technical skills. This is a top-down approach, with the mentor's knowledge being regarded as the most important, and the aim being to transmit knowledge and advice to the novice teachers and support them on a day to day basis, in order for them to be able to manage the classroom (Carver & Katz, 2004). Mentors would need to be trained in skills, such as cognitive coaching, classroom management strategies, good teaching strategies, mentoring responsibilities, and conducting lesson demonstrations, and finally to provide formative assessment of the novice teachers (Abell et al., 1995; Alliance for Excellent Education, 2004; Berry et al., 2002; Feiman-Nemser & Parker, 1993; RNT, 1999; Ganser & Koskela, 1997; Huling-Austin, 1992). Cochran Smith and Paris (1995) claimed that this particular hierarchical method of mentoring has no effect on the novice teacher learning to teach.

The Theory and Connection Model

In this model, mentors are an integral part of constructing the mentor training program and tap into their own experience to conduct their mentoring (Alliance for Excellent Education, 2004; Feiman-Nemser & Parker, 1993). The training program requires mentors to be flexible enough to respond to the needs and concerns of the novice teachers, assess the novice teachers' practice, and help them to improve (Carver & Katz, 2004; Kelley, 2004), while simultaneously providing emotional and psychological help

(Gold, 1996). This training will help mentors to develop reflective skills that allow them to provide initial support as the novice teachers learn to teach, and then to foster the growth and development of their talents and teaching styles (Ballantyne & Hansford, 1995; Kelley, 2004; Moir & Bloom, 2003). The mentors need training in: collecting data while conducting observations, and analyzing this data and providing constructive feedback (Abell et al., 1995; Carver & Katz, 2004; Colbert & Wolff, 1992); designing appropriate intervention strategies (Carver & Katz, 2004); helping novices meet new teacher standards (Berry et al., 2002); discussing subject matter pedagogy (Huling-Austin, 1992), and providing formative feedback (Brennan, Thames, & Roberts, 1999). This method has proven to be effective in improving the practice of mentoring but there is less evidence of its effect on novice teachers' learning to teach (Wang & Odell, 2002).

The Collaborative Enquiry Model

This model stresses the mentors' active construction of knowledge through integration of their practical knowledge of teaching, and their experience of learning (Gold, 1996). The collaboration of teacher educators, staff developers, and mentors, working with novice teachers in the context of their teaching, while focusing the training on a multi-layered, inquiry based program, is needed to foster powerful teaching and learning (Abell et al., 1995; Feiman-Nemser, 2001a; Ingersoll & Smith, 2004). The aim is to help mentors develop skills, which define their role, and to respond to their own needs, as reflective practitioners, of their own practice in working with adults (Breaux & Wong, 2003; Moir & Gless, 2001). Furthermore, it is necessary to challenge mentors to think about how their mentoring and interaction impacts the novice teachers' teaching, and student learning (Brennan, Thames, & Roberts, 1999; Kelley, 2004). Mentors should be trained to help novice teachers with their portfolio development (Alliance for Excellent

Education, 2004; Darling-Hammond, 2003), analysis of student work (Colbert & Wolff, 1992), content standards-based instruction (Kelley, 2004; Moir & Gless, 2001), and reflection techniques (Wang & Odell, 2002). Finally, mentors should develop skills which will facilitate novice teachers taking ownership of their own learning, and becoming reformers in their own classrooms (Cochran Smith & Paris, 1995). Wang and Odell (2002) conceded that this model, while offering the most potential, has not been well conceptualized, developed, or widely implemented in mentoring programs.

Mentor Support

Mentors need support and recognition as they develop new skills for their complex role of mentor (Alliance for Excellent Education, 2004; Ballantyne & Hansford, 1995; Colbert & Wolff, 1992; Feiman-Nemser, 2001a; RNT, 1999; Gold, 1996; Moir & Gless, 2001). Details of this particular aspect of mentoring were largely missing from the literature that I reviewed for this study. Within successful programs, support offered to mentors covers a broad range of practices, from professional recognition to a small stipend, and most importantly, release time.

Recognition as "master teachers" within a school district or school is a powerful incentive for recruiting good, veteran teachers to become mentors (Alliance for Excellent Education, 2004). Furthermore, successful programs link mentoring to a stipend (Alliance for Excellent Education, 2004; Gold, 1996), professional development points, or promotion, in order to keep good teachers in the classroom, but offer them career mobility without promoting them into administrative roles.

Another essential support element for a successful mentoring program is release time for the mentors (Alliance for Excellent Education, 2004; Ballantyne & Hansford, 1995). Gold (1996) reported that mentors develop negative perceptions of mentoring if

they do not have enough time. Firstly, it is well documented that the mentors and novice teachers need time to meet regularly, to help the novice teachers with basic survival needs, orientation to the school, the subject content, school resources, and creating a classroom climate. Some schools build in common planning time for the novice teachers and their mentors to work with curriculum frameworks and lesson plans, and time for the mentors to observe and offer feedback on the novice teachers' teaching (Gold, 1996).

Secondly, the mentors should network regularly with other mentors, as they develop skills for their new role (Feiman-Nemser & Parker 1993; Freiberg et al., 1997; Kelley, 2004). These meetings can either be structured around a mentoring course where they meet to learn about mentoring, and teacher/adult development, and make connections between theory and practice (Alliance for Excellent Education, 2004; Berry, 2004; Carver & Katz, 2004; Feiman-Nemser & Parker 1993; Gold, 1996). Another effective mechanism is to provide a venue for mentors in a district to meet weekly to support each other in their practice, pool resources, share experiences and ideas that work, share challenges, problem solve, set goals, and reflect on their practice in a safe environment (Alliance for Excellent Education, 2004; Ballantyne & Hansford, 1995; Carver & Katz, 2004; Feiman-Nemser, 1996; Feiman-Nemser & Parker 1993; Freiberg et al., 1997; Gratch, 1998; Kelley, 2004; Moir & Bloom, 2003; Moir & Gless, 2001).

Finally, if mentoring is truly to be considered a critical vehicle offered to veteran teachers for further development, then as mentors develop their own knowledge about mentoring, they need time to analyze their own beliefs, reflect on their practice, and assess their impact on the novice teachers and the students in the classroom (Alliance for Excellent Education, 2004; Feiman-Nemser, 1996; Feiman-Nemser & Parker 1993; Moir & Bloom, 2003; Moir & Gless, 2001). Support that encourages an open environment,

where mentors reciprocally model how they share and learn with each other, and reflect on their own practice, is a powerful learning tool for novice teachers (Gratch, 1998). Results from mentoring programs that provide these types of support, indicate a newly-found enthusiasm for teaching among mentor teachers, which has spilled over into the general school climate, and as such, experienced teachers have found ways to collaborate with each other, making life-long learning a central part of their schools (Ballantyne & Hansford, 1995).

Structure and Format of Mentoring Programs

Currently mentoring programs across the US seems to span the full spectrum, from a single meeting between the mentor and the novice teacher, to a highly structured program involving frequent meetings and spanning many years (Ingersoll & Smith, 2004). The American Federation of Teachers conducted a 50 state analysis in 2001, and found that only 29 states require mentoring as part of their induction programs. Furthermore, two states require a reduced teaching load for their mentors, while three others offer some release time. Twenty-one states have established set criteria for mentoring practices, 17 states train their mentors, 12 require that their mentors be paid, and 12 states assign support teams to their novice teachers. Certain programs, such as LaFIRST in Louisiana (Alliance for Excellent Education, 2004), the BEST program in Connecticut (Alliance for Excellent Education, 2004; Berry et al., 2002; NCTAF, 1996), the PEER review program in Toledo (Alliance for Excellent Education, 2004; NCTAF, 1996), the SCNTP in California (Alliance for Excellent Education, 2004; Berry et al., 2002; Moir & Bloom, 2003; Strong & St John, 2001), the BTSA in California (Carver & Katz, 2004; Gold, 1996), the RIT program in Albuquerque, NM (Berry et al., 2002; Feiman-Nemser & Parker, 1993), the Milwaukee district program in Wisconsin (Ganser & Koskela, 1997),

and the Partners in Education program at the University of Colorado and six school districts (Kelley, 2004), release veteran teachers from their teaching for up to three years in order to mentor all the novice teachers in their district or state. The strength of these programs is that the mentors then return to their classrooms (Alliance for Excellent Education, 2004; Freiberg et al., 1997), thus keeping good teachers in the classrooms, and providing them with opportunities for professional development and growth (Darling-Hammond & Sykes, 2003).

Other programs, such as the KTIP in Kentucky (Brennan et al., 1999), CIT in Rochester, NY (Berry, 2004; NCTAF, 1996), LA (Feiman-Nemser & Parker, 1993), Wisconsin-Beloit, Kenosha, Platteville, West Ailis, West Milwaukee district programs (Ganser & Koskela, 1997), and induction programs in MA (Johnson & Birkeland, 2002; Johnson & Kardos, 2002), use classroom teachers who are still teaching. However, these teachers are either given release time (Ballentyne & Hansford, 1995), teach a 50 to 60% load (Berry et al., 2002; Feiman-Nemser & Parker, 1993), are paid a stipend to mentor above and beyond their usual duties (AFT, 2001), or simply mentor above and beyond their full teaching load. Some states provide funding for districts, such as LaTAAP in Louisiana, and then the local parishes fill in the gaps with their own programs, in this case the LaFIRST program in Tangipahoa Parish (Alliance for Excellent Education, 2004).

All successful mentoring programs have a clear set of goals and foci, yet are flexible enough to meet individual novice teachers' needs (Feiman-Nemser, 1996). As an essential part of a generic induction program, they strive to individualize it in order to support each novice teacher (Ballentyne & Hansford, 1995; Blair-Larsen, 1998; Gold, 1996). It is recognized that novice teachers enter teaching at various stages of development and at various ages; some enter teaching at a later stage in life, while others

are young and straight out of college (Blair-Larsen, 1998; RNT, 1999). A good, novice teacher-driven mentoring process provides a well-planned initial experience (Colbert & Wolff, 1992; Ganser & Koskela, 1997) that links their individual teacher education program and previous experience to their new teaching position (AFT, 2001). Effective mentoring allows room for mistakes, growth, and development, while striving to maintain a good balance between guidance and autonomy (Ballentyne & Hansford, 1995), and professional accountability (Carver & Katz, 2004). Furthermore, mentoring provides an opportunity to foster life-long visions of reflective teaching, meaningful teacher learning, and a commitment to shared standards of good practice (Feiman-Nemser & Parker, 1993; Gold, 1996).

There are certain structures that seem to be in place in most mentoring programs and they are summarized below.

Duration

Most mentoring programs reviewed function for somewhere between one and three years, and the pairing of the mentors with novice teachers occurs prior to the school year (Abell et al., 1995; Alliance for Excellent Education, 2004; AFT, 2001; Berry et al., 2002; Blair-Larsen, 1998; Carver & Katz, 2004; Ganser & Koskela,1997; Kelley, 2004; RNT, 1999; Shaffer et al., 1992) as part of an all encompassing induction program. Initially the mentors provide one-on-one support for the novice teachers with basic situational needs, such as setting up their classrooms, accessing resources in the building, and learning the basic policies and procedures of individual schools and departments (Alliance for Excellent Education, 2004; Feiman-Nemser, 2001b).

Participants

Successful mentoring, as part of a larger induction program, requires participation by various stakeholders, as mentioned earlier, who provide a much-needed network of support for the novice teachers (Alliance for Excellent Education, 2004; Brennan et al., 1999; Colbert & Wolff; 1992; Gold, 1996; Moir & Gless, 2001). Many states provide mentors for all new teachers (Alliance for Excellent Education, 2004; AFT, 2001), and some states extend this mentoring to veteran teachers who might be struggling (Alliance for Excellent Education, 2004).

Pairing/Matching of Mentors

Most mentoring programs reviewed assign mentors to the novice teachers, based on their particular recruitment procedure (AFT, 2001). There is common consensus that the match should be in the same grade level and/or subject area (AFT, 2001; Alliance for Excellent Education, 2004; Ballentyne & Hansford, 1995; Darling-Hammond & Sykes, 2003; Freiberg et al., 1997; Strong, 2005; Strong & St John, 2001), and if possible in close proximity within the school building (Abell et al., 1995; Ballentyne & Hansford, 1995; Berry, 2004). Some programs do offer the novice teachers opportunities to pair up with their own buddy, and then provide infrastructure and support for this relationship to develop as they learn to teach together (Lieberman, 1995). In order for mentoring to be effective within a culture of inquiry, participants need time to get to know each other and develop a mutual relationship of trust (Abell et al., 1995; Ganser & Koskela, 1997; Lieberman, 1995).

Time

Successful mentoring programs use creative scheduling and set aside time for the mentors and novice teachers to meet somewhere between a weekly and a monthly basis

(Abell et al., 1995; Carver & Katz, 2004; Colbert & Wolff, 1992; Feiman-Nemser, 1996; Feiman-Nemser & Parker, 1993; Freiberg et al., 1997; Ganser & Koskela, 1997; Kelley, 2004; Moir & Gless, 2001). These meetings vary according to how they fit into the comprehensive induction program, but all seem to constitute both formal and informal meeting times, and are driven by either programmatic necessity or are flexible enough to be initiated by either mentor or novice teacher (Abell et al., 1995; Alliance for Excellent Education, 2004; Lieberman, 1995).

Formal times need to be set aside for: common planning time (Alliance for Excellent Education, 2004; Colbert & Wolff, 1992; Gold, 1996; Moir & Gless, 2001); content specific content teaching strategies (Alliance for Excellent Education, 2004; Berry et al., 2002; Ganser & Koskela, 1997; Strong & St John, 2001); observations by mentor and systematic feedback sessions (Alliance for Excellent Education, 2004; Berry et al., 2002; Carver & Katz, 2004; Colbert & Wolff, 1992; Ganser & Koskela, 1997; Huling-Austin, 1992; Kelley, 2004; Moir & Bloom, 2003; Moir & Gless, 2001; Strong & St John, 2001); and demonstration lessons by mentors (Alliance for Excellent Education, 2004; Freiberg et al., 1997; Kelley, 2004; RNT, 1999; Strong & St John, 2001). Furthermore, time is essential for mentors and novice teachers to work on setting goals (Ganser & Koskela, 1997; Gold, 1996; Kelley, 2004; Strong & St John, 2001), reflecting on their teaching and learning, and the mentoring process (Ballentyne & Hansford, 1995; Carver & Katz, 2004; Moir & Gless, 2001), and ongoing professional development (Alliance for Excellent Education, 2004; Gold, 1996; Kelley, 2004). Time spent together, in informal settings, is vital in developing this relationship and to offset isolation for novice teachers (Alliance for Excellent Education, 2004; Carver & Katz, 2004; Colbert & Wolff, 1992; Ganser & Koskela, 1997; Gold, 1996). During these times, novice teachers can freely

express their needs, concerns, and interests in a conversational manner, while mentors get to know the novice teachers better, and create networking opportunities with other faculty in the school, thus creating an open and collaborative school environment (Berry et al., 2002; Freiberg et al., 1997; Kelley, 2004).

Evaluation

Evaluation is a contentious issue within the mentoring programs. Some program developers believe that it is absolutely essential that mentors are not part of the evaluation of novice teachers, as this will hinder the development of a trusting relationship and thus take away opportunities for the novice teachers to enquire about their practice and share their challenges (Carver & Katz, 2004; Kelley, 2004). Some programs have as an essential piece of their mentoring, the continued formative assessment and a final summative assessment by the mentor, who is considered to be the only person who truly knows the novice teacher's development, growth and ability to teach (Berry et al., 2002). In her description of the SCNTP, Feiman-Nemser (2001b) stressed that programs should not have to choose between assessment and assistance, and that both should rather be integrated within different aspects of the program. Program evaluation by both novice teacher and mentor is essential if one is to deliver an effective program, and constantly strive to meet the needs of new teachers (Blair-Larsen, 1998).

Contribution of Induction and Mentoring Programs

Effective mentoring, as part of a larger induction program or integrated into the whole-school/district professional development program, has been shown to have long-lasting effects on teacher satisfaction, quality, and retention (Johnson & Kardos, 2002; Kardos, 2003; Kelley, 2004; Strong, 2005). The literature reviewed included program reports, research articles, statistical reports, government reports, issue briefs, program web

pages, and papers written by scholars. Descriptive reports for over 50 state, district, or county induction programs were included (of which only 33 programs specifically measured the retention or attrition rates of their new teachers). These articles spanned comprehensive induction programs with mentoring components, mentoring stand-alone programs, and a combination of both. As most induction programs include an element of mentoring, the results of the research conducted cannot be attributed to either one or the other, but in most cases to both, and sometimes in conjunction with other factors. Smith and Ingersoll (2004) have noted that although there are many descriptive studies of the content of induction programs, and evaluative studies examining the effects of these programs, there are important limitations to these studies. Most programs are evaluated simply by collecting data on the participants, and these data are not compared to data of other teachers in the district who do not participate in the induction or mentoring program. Therefore, while the results reported by most studies are inconclusive, they do seem to illustrate that the programs are meeting their own goals.

Research, in general, indicates that induction and mentoring programs have a positive effect on the retention of good teachers, and have the potential to impact a further three groups of people: novice teachers, veteran teachers, and students.

Impact on the Retention of Good Teachers

Generally, it is believed that induction programs that provide multiple supports are effective in retaining good teachers (Alliance for Excellent Education, 2004; Ingersoll & Smith, 2004; Johnson & Kardos, 2002; Smith & Ingersoll, 2004; Weiss & Weiss, 1999). A number of factors make it difficult to ensure that induction does in fact reduce attrition. Often research reports investigate various aspects of induction programs and the effect they may have on teachers, but just as often the research measures different variables, or

does not allow for variables besides induction, such as urban vs. rural schools, or school climate and culture, or "pink slipping." In general, most induction and mentoring programs report retaining teachers at a higher rate than the national averages mentioned earlier in this chapter over the short term (first year teachers only), and over longer periods (three to seven years).

Very little research has been conducted in which a control group of teachers within the same district or school, who did not receive induction, have been measured against a group who did receive induction. Berry et al. (2002) researched the support provided to new teachers in the Southeast, using a control group of teachers who had not participated in any induction program. Their results show that 85% of those who received induction over a period of three years remained in teaching as opposed to 74% of those who did not receive induction. The Montana Beginning Support for New Teachers program, which lasted three years, reported that retention rates were higher for those who participated in the mentoring program in which 92% of the mentored teachers vs. 73% of those not mentored remained in teaching after the second year. After the third year, there was a 100% retention rate for those mentored and a 70% retention rate for those not mentored (Ingersoll & Kralik, 2004).

Several state programs, have reported retention rate increases. Programs have reported retention rates for teachers who have been in the program for one year, such as Ohio's increase in retention of novice teachers from 60% to 90% (NCTAF, 1996), and in 2001, they recorded a retention rate of entry year teachers of 98% (Berry et al., 2002). Various states have also researched the impact of their induction programs over a longer period, and have found that with induction, retention rates increased. One of the most comprehensive state programs, BEST program in Connecticut, reported that more than

40% of the current teaching force were trained to be mentors, or portfolio assessors, and another 25% participated in the BEST program during their novice years of teaching. In the short term, researchers have reported that the attrition rate of new teachers in Connecticut, is between six and seven percent (Alliance for Excellent Education, 2004; Youngs, 2002), and the state's retention rate is well above the national average, thus suggesting that the BEST program is successful in stemming the attrition of teachers from the teaching profession.

Some district programs, such as those in Brunswick, Toledo, Cincinnati, and Columbus in Ohio (Alliance for Excellent in Education, 2004; Berry et al., 2002; Darling-Hammond, 2003; NCTAF, 1996, 2003); the BTSA and CIT programs in Rochester NY (AFT, 2001; Darling-Hammond, 2003; NCTAF, 1996, 2003); Prince George County schools in Washington, DC (Wong, 2003); Islip public schools, NY (Wong 2003, 2004); Savannah, Georgia; Leyden, Illinois (Wong, 2003, 2004); Carlsbad, New Mexico; Geneva, NY; Homewood Flossmoor, Illinois; Ipswich, MA; Newport Mesa, CA; Port Heron, Michigan; and the TIP program in Tuscon, Arizona (Wong, 2004) have reported retention rate increases for beginning teachers. The Homewood Flossmoor High School district, IL, increased its retention rate for new teachers in 1999 from 64% to 100% by 2002. Since the implementation of the BTSA program in Rochester, NY, there has been a reported increase in the retention rate of new teachers from 60% to 91% (NCTAF, 1996). Odell and Ferraro (1992), who followed two cohorts of teachers from this program four years after their mentored teaching year, found that 96% of these teachers were still in the classroom. LaFourche Parish, a district-based implementation of the state-wide LaFIRST induction program, reported an increase in the retention rate of new teachers from 44% to 93% after a few years (Wong & Asquith, 2002), and in the 2000–2001 academic year,

they retained 98% of their new teachers (Wong, 2003). Their long-term retention rate is well documented, and is reported to be as high as 88% of their teachers remaining in teaching after three years (RNT, 2002).

Some programs, which are initiatives between institutions of higher education and the local schools, have reported that induction has helped to retain teachers. The University of Colorado and six local school districts reported that 94% of their teachers were still teaching after four years in the field (Kelley, 2004), and the Texas A&M, Corpus Christi program has retained 100% of its induction participants over the past five years (RNT, 2002). In California the state-legislated funding for the BTSA programs uses the SCNTP to develop the standards and training. The New Teacher Center at the University of California is considered the "gold" standard for all induction programs and as such has conducted much research on its impact and is often studied by others. Strong and St John (2001) researched a cohort of teachers from the mentoring program in 1992–1993 and found that seven years later, 94% of these teachers were still involved in education.

On a global scale, induction is beginning to be recognized as an effective manner to retain good teachers, and programs are running in the Pacific Rim countries (US Department of Education, 1997), Singapore (Wong, 2003), and New Zealand (Wong, 2003).

Impact on Novice Teachers

Novice teachers who have been part of effective induction and mentoring programs have reported success in their personal growth and professional development.

Personal Growth

Novice teachers seem to flourish in schools where mentoring programs are fully integrated within the school system and provide a smooth transition from their student teaching program into their first year of teaching. Mentors and novice teachers are able to work together, and construct individual relationships, which prioritize the needs, concerns and strengths of each individual (Abell et al., 1995). This one-on-one relationship, if done correctly, can help to ease the novice teacher into the school culture, promote a sense of well being, improve self-efficacy and attitudes towards teaching, and help the novice teacher to feel comfortable. With this level of comfort, the novice is able to develop new levels of confidence (Alliance for Excellent Education, 2004; Arends & Rigazio-DiGilio, 2000; Darling-Hammond, 2003; Feiman-Nemser & Parker, 1993; Kelley, 2004; Wong, 2004). Many novice teachers reported that the multiple supports they received were the single most important factor in their looking forward to returning to teaching the next year (Alliance for Excellent Education, 2004; Berry et al., 2002; Gratch, 1998; Ingersoll & Smith, 2004; Johnson & Kardos, 2002; Kardos, 2003).

Professional Development and Instructional Effectiveness

Principals, mentors, and veteran teachers reported that novice teachers seemed to be more effective in terms of their day-to-day instructional practice when mentored (Arends & Rigazio-Digilio, 2000; Feiman-Nemser & Parker, 1993). Partnered with other colleagues and learning from guided practice, the novice's classroom management, teaching practice, instructional skills, and subject specific methodology all developed at a rate much faster than occurred for novices who were not mentored (Alliance for Excellent Education, 2004; Berry et al., 2002; Ingersoll & Smith, 2004; Johnson & Kardos, 2002; Kardos, 2003; NCTAF, 1996). In the SCNTP, veteran teachers reported that novice

teachers taught like third year teachers in terms of their ability to teach effectively (Alliance for Excellent Education, 2004). Mentors reported that these novice teachers' level of comfort and confidence allowed them to move beyond their own concerns about classroom management, and instead report higher levels of professional growth where they were focusing on issues of student learning, and the complexities and ambiguities of teaching (Kelley, 2004; NCTAF, 1996). Furthermore, principals reported that the novice teachers were open, insightful, and generally more reflective about their teaching and its impact on students' learning (Kelley, 2004). The increased faculty collaboration resulting from the interactions within these intensive programs resulted in novice teachers feeling less isolated, and provided a rich and powerful network of colleagues to draw upon for support (Feiman-Nemser & Parker, 1993; Ingersoll & Smith, 2004).

Impact on Veteran Teachers

Veteran teachers, who take on the role of mentorship, consider nurturing and developing of novice teachers as their responsibility to the education profession as a whole. In addition, by guiding these future teachers they have reported benefits that were far ranging (Abell et al., 1995; Freiberg et al., 1997). They seemed to be astounded at the magnitude and direction of their own personal and professional growth and ability, and they also reported increased interest in giving back to teaching and increased incentive to stay in teaching (Arends & Rigazio-DiGilio, 2000; Darling-Hammond, 2003; Freiberg et al., 1997).

The following four reasons are most often reported to be incentives for veteran teachers to work with novice teachers.

Professional Development

The recognition of being selected as a mentor, often a sought after position, made veteran teachers feel valued by the district, the school, their peers, and the novice teachers they interacted with. Furthermore, this recognition enhanced their awareness of the value of their perspective, influence, and contribution within a system (Freiberg et al., 1997; Gold, 1996). This new role also increased their scope and visibility within the district, which introduced them to new opportunities for broader networking as well as new visions of what their career might hold (Freiberg et al., 1997). The collaboration between the mentors, and between the mentors and their novice teacher counterparts, encouraged learning from each other and provided a role model of sharing and collaboration for the entire school (Brennan et al., 1999; Feiman-Nemser, 2001a). Mentors became attuned to the needs of novice teachers and, as such, also aware of the needs of all teachers within a school (Moir & Bloom, 2003). This provided them with the opportunity to introduce or renew a culture of sharing, breaking down the isolation experienced by so many within schools and providing emotional as well as instructional support (Arends & Rigazio-DiGilio, 2000). Potentially this collaboration has the potential to foster powerful teaching, encouraging new dialogue about teaching and learning and the creation of a "common language" for all educators (Alliance for Excellent Education, 2004; Canniff & Shank, 2003; Feiman-Nemser & Parker 1993; Moir & Bloom, 2003).

Personal Empowerment

Working with a novice teacher regenerated a spark within veteran teachers; replenished their enthusiasm; offered a new lease on life; promoted personal well being; and often brought validation of their own teaching ideas (Abell et al., 1995; Arends & Rigazio-DiGilio, 2000; Darling-Hammond, 2003). The mentoring experience provided a

mirror of their own first years of teaching and they reported a renewed opportunity to reflect on and redefine their own beliefs on teaching and learning in a more objective manner (Freiberg et al., 1997; Gold, 1996). Through the multiple layers of engagement with the administration, novice teachers, and student learning during this process, the mentors reported that they felt better equipped to deal with complex relationships. They also developed confidence and experienced maturity in dealing with other adults, were able to lead teachers' meetings, facilitate faculty meetings and take on leadership roles within other professional development opportunities (Freiberg et al., 1997; Moir & Bloom, 2003).

Enhancement of Practice

Mentoring is a powerful form of professional development and both novice teachers and mentors concur that effective mentoring improves their teaching performance (Arends & Rigazio-DiGilio, 2000; Freiberg et al., 1997). Working with novice teachers brought renewed appreciation for the complexity of teaching and a deeper understanding of teaching and learning (Alliance for Excellent Education, 2004; Feiman-Nemser, 2001b). Novice teachers often brought new materials, fresh ideas, modern teaching methods, and youthful exuberance to the partnership. This in turn provided an opportunity for reciprocal sharing and veterans reexamining their own teaching methods, their curriculum development, and dealing with issues, such as time management, complex calendars and learner-centered education (Abell et al., 1995; Brennan et al., 1999; Freiberg et al., 1997; Gold, 1996; Moir & Bloom, 2003). These interactions also led to veterans expanding their views on teaching to include a more rounded and global approach (Freiberg et al., 1997).

Service to the Profession

Many mentors agreed that working with a novice teacher afforded them an opportunity to give something back to their chosen profession. Veteran teachers, working with either a fellow veteran developing mentoring programs, or those assigned novice teachers to mentor, reported that this unique role, offered them not only the possibility for personal and professional growth, but more importantly, promoted the profession as a whole (Ballantyne & Hansford, 1995).

Impact on Students

Very little research is able to claim emphatically that induction impacts student learning. However, studies have reported that induction enhances teacher quality, and further studies have found a strong relationship between quality teaching and student achievement. There are also research reports that have argued that teacher quality is the largest single variable in student learning (American Association of State Colleges and Universities, 2001; Kelley, 2004; Villar, 2004). Novice teachers, within induction programs, are reported to move more quickly beyond issues of survival (such as classroom management, and procedures and policies) towards improved instructional strategies and learner-centered education, which improves student learning (Alliance for Excellent Education, 2004; Darling-Hammond, 2003; Gold, 1996). A recent three-year study of 19,000 novice teachers, who had undergone the SCNTP, indicated that these students made similar gains to those of experienced teachers. These new teachers, armed with better teaching strategies, were better able to assess the needs of their students, because they tended to think about how their teaching influenced student learning (Alliance for Excellent Education, 2004). Since the inception of the induction program in Connecticut, there have been steep gains made by 4th graders who are currently ranked

first in the nation in reading and mathematics and 8th graders who score at or above proficiency in reading. They also reported to be the first state in the nation to improve the gap between minority students and whites (Darling-Hammond & Sykes, 2003).

It is clear that comprehensive induction programs, which include a mentoring component, linking teacher preparation programs to the first years of teaching, can be effective. In order to provide induction programs that orient novices to the profession, and that provide professional development opportunities, acknowledge and affirm the different stages of teacher development, I propose that we develop these according to the underlying principles of adult learning theories. Mentoring programs should take into consideration successful adult learning theories that have as their ultimate outcome, the transformation of teachers, and subsequently, the students in our classrooms, into empowered critical thinkers.

Adult Learning Theory

A review of three theories on adult learning provided a conceptual framework for this research, namely, Andragogy, Self-Directed Learning (SDL), and Transformational Learning (TL). This research explored the impact that the underlying philosophy of each of these "theories" has had on induction and mentoring programs. Research has indicated that a shift towards using a TL theory approach will result in more empowering mentoring practices, and will facilitate the smoother transition of novice teachers into the classroom.

Andragogy

The term andragogy has been in use since 1833, when a German grammar school teacher, Alexander Kapp, used it to describe elements of Plato's educational theory. The etiology of the word andragogy, "andr" meaning man, was contrasted with "piad" (ped), meaning child and "agogos" meaning leading (Atherton, 2005; Conner, 2004). The term

reappeared in the 1920s when Rosenstock argued that adult education required special methods, special teachers, and a different philosophy. Lindeman and Anderson claimed that, "andragogy was the true method of adult learning" (as cited in Brookfield, 1987, p. 127). In Europe, the term andragogy has been used for years to describe adult learning (Roberson, 2002) and was only popularized in North America in the 1970s by Malcolm Knowles in his book, The Modern Practice of Adult Education: Andragogy vs. Pedagogy. He re-introduced the concept of andragogy, which he defined as "the art and science of helping adults learn," and which he contrasted with the notion of pedagogy, "the art and science of helping children learn" (Merriam, 2001, p. 43; Smith, 2002).

Andragogy is based broadly on humanistic assumptions of learning, where the emphasis is on the natural desire of all humans to learn, and the associated empowerment of the learner to be able to exercise control over their own learning process. This diverges from the behaviorist view that the world exists independently of the learner, and shifts the emphasis toward the notion of acknowledging the existence of the world of the learner, and focusing on the individual's experience of that world (Merriam, 2001). In many instances, Knowles used ideas from popular psychologists in these opposing therapeutic traditional views, emphasizing good facilitation skills for teachers, primarily based on the client-centered theories of the humanist, Carl Rogers. Additionally, Knowles called on behaviorist traditions, such as the notion of learners identifying their needs, setting goals and entering into learning contracts. However, he moved beyond the behaviorist notion and common definition of learning as "a change in one's behavior." He proposed that learning is the construction of meaning, through interpretation and integration, and the transformation of knowledge, by an individual, through their personal experience (Pratt, 1993). The learner is thus placed at the center of the learning and actively constructs their

own knowledge. In this paradigm, learning should result in growth toward the realization of one's potential as an autonomous, self-directed adult who is able to participate in a democratic society. Knowles' main contributions to the field of andragogy were his specific description of the adult learner, his description of and emphasis on the process of learning around specific elements, and the implications of the latter for teachers of adults.

Adults as Learners

Knowles' theory of andragogy has contributed much to our understanding of the nature of the adult as a learner. Some believe that his attempt to build a theory was actually based on his definition of the characteristics of adult learners (Merriam & Caffarella, 1991). Andgragogy defines adults as developing, living beings who actively seek to learn, as opposed to pedagogy, which tends to define children as passive, empty vessels waiting for someone to transmit knowledge to them (Knowles, 1975). Knowles believed that adults should be seen as free agents, distinct from the social, cultural, and historical contexts of their world; and capable of controlling and directing their own learning (Roberson, 2002). Initially, the conceptual framework for educating adults was borrowed from pedagogy, and, as such, the programs that were organized in schools, appeared to be no different to those for children. Content knowledge was transmitted through the didactical methods commonly practiced in formal schooling, and teachers often found that they were losing their adult students. As a result, they began to experiment with different assumptions and strategies (Knowles, 1974).

Underlying Assumptions

Knowles proposed the following five critical assumptions about the characteristics that differentiate adults as learners, from children as learners.

Adults have a well-defined self-concept.

Adults come to learning with vast prior experience.

Adults have a desire or readiness to learn.

Adults have an orientation to learning.

Adults are motivated to learn.

Much of the literature on andragogy describes these characteristics of the adult learner, invokes their relevance, and provides further clarification on Knowles' seven elements around which the process of learning should be designed (Atherton, 2005; Beaman, 1998; Conner, 2004; Merriam, 2001; Roberson, 2002),

The Process of Learning

Knowles believed that the focus of learning should acknowledge the individual needs of adults, thus accommodating their prior knowledge and experience. He furthermore proposed that the process of learning should be designed around seven elements: the setting of the learning climate; involving learners in mutual planning; involving participants in diagnosing their own needs for learning; involving learners in formulating their learning objectives; involving learners in designing learning plans; helping learners carry out their learning plans; and involving learners in evaluating their own learning.

This process revolves around the central tenets of choice and participation. Many of the current induction programs and mentoring models are based on Knowles' conception of the adult as a learner who is considered to be self-directed, and thus should be an active participant in defining their own learning needs, developing their own learning goals, and developing the means to evaluate them. The natural tendency of the adult to grow and develop is taken as a given, and this theory has been used widely by many adult educators around the world (Pratt, 1993).

Teachers of Adult Learners

Andragogy proposes that we should teach adults differently to how we teach children (Imel, 1998; Knowles, 1974). Transmission modes of pedagogy are not sufficient to enable adults to deal with the rapid change taking place in societies and schools today (Schugurensky, 2006). As such, adult education should encompass a co-operative venture in non-authoritarian informal learning environments (Smith, 2002). Adults expect learner-centered settings, where they can set their own goals and organize their own learning around their present life needs (Fisher, 1973; Imel, 1998). Teachers of adult learners therefore need to provide opportunities for adults to articulate their problems and their needs, and then to provide learning experiences that will facilitate the process where learners go about identifying objectives, and selectin resources to meet these needs (Fisher, 1973). Furthermore, andragogy proposes that all learning should be emancipatory, freeing the learners from the forces that limit their options and control of their lives. Critical reflection on individuals' beliefs and how they are acquired will result in transformation of the learners' perspectives and provide opportunity for deeper learning in higher education (Beaman, 1998).

Self-Directed Learning

SDL has existed ever since self-study played an important part in the lives of the Greek philosophers, such as Socrates, Plato, and Aristotle. Other historical examples of self-directed learners include Alexander the Great, Caesar, Erasmus, and Descartes. Social conditions in Colonial America and a corresponding lack of formal educational institutions necessitated that many people learned on their own. Early scholarly efforts to understand SDL took place some 150 years ago in the US. Craik, in the mid 1800s documented and celebrated the self-education efforts of several people. Around the same

time in Great Britain, Smiles published a book entitled "Self-Help" that applauded the value of personal development (Caffarella, 2001; Hiemstra, 1994). During the twentieth century, simultaneously with the development of andragogy, Tough (1961, 1971, in Merriam, 1993), building on the work of Houle (1961, as cited in Merriam, 2001) provided the first comprehensive description of SDL as a form of study. Early research on SDL was descriptive and widespread, and as such, the goals varied depending on the philosophical orientation of the writer (Merriam, 2001). Although the underlying philosophy of SDL is humanistic in nature, where the focus of learning is on the individual, Caffarella (1993) suggested three other philosophical assumptions, namely: progressivism, behaviorism, and critical theory inform SDL. SDL, influenced by progressivism, places the adult learners' experiences and the adult learners themselves at the center of the learning process. The process of learning proposed by SDL theorists is based on a behaviorist approach, and calls for learners to develop their own sets of goals and learning plans with objectives that are measurable, and for learners to select appropriate techniques for achieving and evaluating these objectives. Finally, Caffarella noted that the recent emphasis placed on the description of learning, presents a critical theorist perspective. Learners are expected to question the assumptions they have about the world they live in by challenging the current social, economic, and political structures.

SDL also focuses on whether adults are naturally autonomous and self directed, or whether their autonomy is situational, and as such, raises the question of whether adults can be taught to be more self-directed. There are three principal ideas incorporated into the concept of SDL, namely; a set of goals for the learning process that stresses the ability of the individual to plan and manage their own learning; a characteristic of adult learners

with personal autonomy as its hallmark; and, a way to organize instruction in formal settings that allows for greater learner control (Caffarella, 1993).

Goals of SDL

The basic goals of SDL from the humanist perspective are:

The development of the learner's capacity to be self-directed and as such to accept responsibility for one's own learning.

The fostering of transformational learning, which posits critical reflection by the learner as central to the process. It is important that one understands the historical, cultural and biographical reasons for one's needs, wants and interests.

The promotion of emancipatory learning and social action for all.

Self-knowledge is a prerequisite for autonomy in SDL, and it is the function of adult educators to assist learners to learn in such a way that it enhances their capability to function as self-directed learners, and to promote emancipatory learning and social action (Merriam, 2001).

Adults as Learners

SDL is grounded in the notion that adults are independent, and autonomous, and thus self-directed in terms of their learning. Adults are able to exercise free choice, articulate their needs, and have a strong sense of personal values and beliefs. Adult learning encompasses learning outside of formal educational institutions. For example, adults use their initiative in their every-day lives to pursue their personal interests and hobbies, or simply to learn for learning's sake. Learning in adulthood, means growing in self-direction and autonomy, and using rational reflection to develop into critical thinkers. This has tremendous implications for facilitators especially as learners plan and carry out their educational efforts to move towards a higher level of personal self-direction. This is

also often self-initiated and includes strategies, such as seeking assistance from friends, working with groups, and often, using self-help books.

Houle (1961, as cited in Merriam, 2001) interviewed 22 adult learners and classified them into three categories based on their reasons for participating in learning:

Goal-oriented adults, who participate mainly to achieve some end goal with clear-cut objectives.

Activity-oriented adults, who participate for social or fellowship reasons rather than the content of announced purpose.

Learning-oriented adults, who perceive of learning as an end in itself. This latter group resembles the self-directed learner identified in subsequent research (Houle, 1961, as cited in Merriam, 2001).

The Process of Learning

The process of learning, as postulated by SDL, centers on the learner more than the content. This aspect is heavily influenced by behaviorist theory, focusing on individual learners themselves developing plans with specific measurable outcomes. Recent authors have focused on personal experience and critical reflection coupled with action, as a tool to challenge the world that learners live in, in order to bring about change (Caffarella, 1993; Zepke & Leach, 2002). Earlier SDL theorists proposed that learners use a linear, systematic process, which closely mirrors the formal learning process (Caffarella, 1993; Hiemstra, 1994; Merriam, 2001). Other theorists have argued that the learning process is not planned. Rather, it presents itself within the opportunities in which people find themselves in their daily lives, and that learning occurs through a haphazard process of trial and error. This does not imply that there are no patterns of learning, but rather, that learning will differ from person to person. Cavaliere (in Caffarella, 1993) proposed a third

scenario, namely, a stage model of learning. This was based on her research on how the Wright brothers learned to fly, which has five stages. Initially, the learner is faced with a situation where they need to solve a problem, the inquiring stage. In response to this, the learner develops a prototype, the modeling stage. Thirdly, through experimenting and practicing, the learner continuously refines this prototype. The final two stages of learning occur through theorizing and perfecting the prototype, and finally in actualizing, where one receives recognition for the product of one's learning efforts.

SDL has contributed greatly to the discourse on adult learning theory by providing insight into the process of learning (Caffarella, 1993). It challenges us to expand our current thinking about learning in formal settings. The approaches described in SDL have been widely used to inform mentoring and induction programs in the US thus far, and SDL also holds promise for how mentors can assist these learners to develop and build upon their own theory, practice, and understanding, and affirm their learning process and individuality.

Transformational Learning

Sharing the humanistic assumptions of the previous two theories, Transformational Learning (TL) theorists believe that adults are rational, capable of change, and free to act on their world. TL has expanded our understanding of adult learning by focusing on the meaning-making process (Baumgartner, 2001). It is not WHAT we know, but HOW we know that is important to TL theorists.

Over the past two decades, TL, a theory initially grounded in explaining how adult learning is different from pre-adult learning, has evolved into a comprehensive and complex description of how adult learners construe, validate, and formulate the meaning of their experience. The TL paradigm comprises four conceptual strands (Clark, 1993;

Dirkx, in Baumgartner, 2001). The first two theories are Freire's critical pedagogy, which fundamentally believes that through conscientization, all people can transform their world (Baumgartner, 2001; Freire, 1972); and Mezirow's theory of perspective transformation, which emerges from Freire's emancipatory education, but focuses specifically on rational thought and critical reflection in the transformation of the learning process (Baumgartner, 2001). Later, theorists within this paradigm include Daloz, whose work on the development character of formal education in adulthood is more holistic in its outlook and contextually based, and Dirkx, who stresses that imagination plays a role in facilitating learning, and that the ego-based rational approach of the earlier models relies too heavily on words to communicate ideas, and that feelings and images also play a large role in learning (Baumgartner, 2001; Dirkx, 2000).

For the purposes of this review, I explored Mezirow's theory more deeply. It has the structuring of meaning/knowledge from experience, through critical reflection on one's assumptions, as its central tenet (Mezirow,1998). TL, dealing with the actual process of learning, has contributed much to the current practices in adult education. In particular, it has added the concept of change in the consciousness within the learner. In TL, the focus is on the learner who interprets their experiences and revises their assumptions and understandings. Learning is no longer considered behavioral change, but rather, a change in one's consciousness, and in which critical reflection plays a major role.

Underlying Assumptions

Underlying TL is the assumption that knowledge is a construction that humans make as they interact with their world, reflect on their assumptions, enter into dialogue, and think about their thinking, and in so doing, they construct new meaning. The main focus is on the dramatic positive change in the learners themselves, which is described as

growth enhancing, and as such, it is proposed that people become different in ways both they and others can recognize (Clark, 1993; Mezirow, 1997). Originally, TL was conceptualized as a linear process, but in later research, Mezirow indicated that he believed the process to be much more complex, individualistic, and fluid, and involving thoughts and feelings (Baumgartner, 2001; Mezirow, 1997).

Adults as Learners

Mezirow (1997), specifically addressing adult learners, believed that all human beings have much in common, including their connectedness and their desire to understand themselves and each other. He further believed that all learning is culturally bound. Adults who have a certain level of cognitive development function within meaning systems, which he described as "complex and dynamic structures of beliefs, theories and psycho cultural assumptions." These processes function as a lens through which all subsequent experiences are interpreted. These assumptions develop within each individual and are termed "habits of expectation," and they can limit perception, as past experience determines how individuals interpret any new experience. Learners, through critical reflection, can identify their underlying assumptions, and can critically assess whether they need to reformulate them and thus develop new knowledge. Thus learners, considered autonomous and rational, are sometimes limited by institutional or environmental forces, and thus have the gaining of agency over their own lives as their goal.

The Process of Learning

Learning occurs when some disorienting dilemma leads learners to reflect critically on the assumptions and beliefs that guide them (Clark, 1993). This critical reflection then leads learners to change the way they structure the meaning systems

through which all future experiences are filtered. Mezirow (1998) distinguished between reflection, and critical reflection on assumptions (CRA). He described reflection as a "turning back on an experience," which simply means, becoming aware, wondering about things, and taking something into consideration. CRA, however, introduces a different "order of abstraction" where we critically examine and assess as we reflect. This process has the potential for affecting individuals' established frame of reference. Human learning is considered grounded in the nature of human communication, as we attempt to understand the meaning of what is being communicated to us, giving credence to the communicator's intentions, values, norms, other moral issues, and feelings (Mezirow, 1998). It is important to be cognizant that information, ideas, and contexts always change, and any current interpretation of reality (knowledge) is subject to revision, as we interact or communicate with other humans. All of our interpretations are biased, and so it is through rational discourse and critical reflection that we can validate them or reevaluate them.

Impact on Current Induction and Mentoring Practices

Andragogy provides a set of guidelines for designing instruction for learners who are more self-directed than teacher-directed. Adults bring with them many experiences, which represent a rich resource for learning and these need to be acknowledged when designing and planning programs. Some adult learners are imbued with biases and presuppositions about the students that they will be teaching, and about schooling and education in general. Unless these biases are acknowledged and unpacked early on in their teaching career, they may continue to inform their practice as teachers negatively throughout their careers (Fisher, 1973).

In terms of planning an induction program, it is essential to acknowledge that adults need to know why they need to learn something, and that they are inclined to want to take part in their own learning. As such, there should be a process, whereby they are encouraged to make their own decisions, set their own objectives and goals, and then decide on how to assess if they met these goals and objectives. Adults learn best in small learning groups, where discussion of the adults' experiences, rather than textbooks, form the "text" for the learning session. Assessment should be based upon self-assessment, where the program helps adult learners to develop the tools and skills needed for obtaining data on their development, and provides the space and opportunity for self-reflection and resetting of goals.

SDL focuses on the learner who is considered a competent adult who can initiate, plan and execute their own learning. In many instances, giving the responsibility for learning back to the learner is more beneficial to adult learners than the combined impact of other learning approaches. SDL has challenged us to debate the salient characteristics of learners and expand our thinking about learning in formal settings. It specifically challenges us to consider how we can use informal learning processes to enhance the formal learning process. SDL focuses on learner initiative and control of the learning process, suggesting that adults be given the time to think about what they want to learn, how they want to go about learning, and which criteria they will use to determine if their learning experience was successful or not.

SDL has contributed greatly to the discourse on adult learning theory by providing insight into the process of learning (Caffarella, 1993). The approaches described in SDL have been widely used to inform mentoring and induction programs in the US thus far. SDL also holds promise for how mentors can assist adult learners to develop and build

upon their own theory and practice, develop understanding, and affirm their own learning process and individuality.

Learning as a complex meaning-making process, will add much value and insight to the process of mentoring of novice teachers. In practice, TL celebrates diversity and seeks social justice, believing that people, by continuous critical reflecting on their understandings, will develop new and multiple perspectives, and will be more willing to accept differences and diversity, a desirable trait for aspirant teachers. This helps to create a multicultural learning environment, one that is free of gender-bias and racist discourse, and challenges current sociopolitical hierarchies, and consequently, encourages learners to be autonomous.

All novice teachers enter the profession with at least 16 years of prior "learning by observation" which informs their "knowledge" of how teaching and learning take place. As adults' learning occurs through the dissonance that is created between their prior understanding and the reality that their current situation presents, mentors can utilize this dissonance by providing opportunities for novice teachers to reflect critically on the dissonance between their prior understandings and assumptions, and their current reality. Through mentored dialogue, the novice can be encouraged to formulate broader understandings and deeper knowledge.

Adult learners, as can be seen from the discussion of the preceding theories, are assumed to be a diverse group of people, in terms of their life experiences, prior education, personalities, ages, and learning styles. This should all be factored in when educational experiences for adults are considered and designed. They differ fundamentally from younger learners and bring with them a vast array of experiences that determine their interpretations and therefore their new learning. This can also have a

significant influence on their motivation and their openness to learning. Most theories agree that adults are more likely to personalize their learning, and thus learning should be connected to, and integrated into their daily lives, so that it can make sense and have meaning.

Induction Programs Utilizing Adult Learning Theories

The induction and mentoring programs discussed earlier in this chapter have utilized many of these underlying theories or assumptions of who the adult learner is, how adults learn, and how teachers of adults should facilitate learning opportunities. Summarized below are the focus, goals, structure, and format of programs which are considered successful in terms of impacting retention rates, teacher quality, and student learning, and which are informed by the same philosophy of learning as these adult learning theories.

Focus and Goals

The goals of the programs reviewed, include retention of novice and veteran teachers, transition of student teachers into teachers of students, and quality teaching and learning. Most programs focus on the quick transition of novice teachers into fully fledged teachers, with support from the school system. Adult learning theories suggest that adults are interested in immediately applying their learning and making connections between these educational experiences and their work and lives. Professional development is used as to facilitate this important aspect of their learning, by providing opportunities for collaborative inquiry and application of learning. Schools encourage active participation by all their members, to promote, consider, implement, and assess new and innovative ideas. Action plans developed by the novice teachers themselves, are an important aspect of learning, where teachers are encouraged to build on their experience and make

connections linking their new knowledge to the new content, and to its application, and then to reflect upon it.

Quality teaching and learning, and connecting the theory of teaching to the practice of teaching, underlies all successful induction programs. Adults enter the teaching profession at various stages of development, and often need help with simple "survival" strategies in their transition from learning about teaching into actual teaching. Consequently, good programs focus on the learner's needs rather than simply on the content or policies and procedures required by the school or district. Adults learn from reflection on their own experience, knowledge and practice, as they spend time in the classroom working with the students, professionals, and the communities within which they teach. Learning about teaching by being in the classroom, novice teachers are often presented with situations that fall outside of their existing knowledge realm and they need to use initiative, innovation, and improvisation to solve the immediate problem. These constitute what Schön (1987) referred to as indeterminate zones of practice. He suggested that in these instances, when usual patterns of "knowing-in-action" (building on prior knowledge) do not work, we either react to these situations with surprise or brush them aside, or we reflect on them and thus reconstruct our knowledge. He deemed that if we simply think about them as they occur, or after the fact, we are practicing "refection-on-action" and he suggested that this does not necessarily lead to any change. However, if we practice "reflection-in-action," we can reshape what we are doing and make immediate adjustments through experimentation and changes in how we act.

Structure and Format

Successful programs view participation by all members of the community in the induction of novice teachers as an essential component of a fully comprehensive induction

program. Both novice teachers and mentors, as part of a professional teaching community (Wong, 2004), are valued for their contributions, and their individuality (Blair-Larsen, 1998; Gratch, 1998; Huling-Austin, 1992). There is consequently a collective responsibility for defining teaching and learning. The programs researched have input from all stakeholders, including national policy makers, state-wide initiatives and funding, school districts, the community, and veteran and novice teachers. Wong (2004) believed that teachers will remain in teaching if they belong to a professional learning community where they and veteran teachers are valued for their respective contributions, and where high quality interpersonal relationships founded upon trust and respect are also valued.

Evident in the structure of the programs researched is the creation of opportunities for novice teachers to forge networks with other veteran and novice teachers, and with the community at large in order to delve into issues pertinent to the individual. As induction programs struggle to meet the needs of every teacher, the National Research Council has suggested within the design and development of future induction and professional development programs, opportunities should be created for teachers to form interest groups around particular topics and projects. It is important to note that Induction happens whether planned or not. Teachers learn through interactions with other teachers, through formal mentoring (such as state mandated induction programs), or informal mentoring (which occurs in the lunchroom or hallways).

The induction and mentoring programs that were reviewed all include an orientation program, which addresses generic and specific concerns. This is then followed up by continued professional development programs which create a collegial environment promoting team-work, peer collaboration, and the creation of learning networks. Induction is not considered to be a "shot in the dark" or "one day affair," but rather a

program that extends from pre-service through the first years of teaching, and continues on to include veteran teachers.

Good mentoring programs value the building of relationships between novice teachers and veteran teachers, with mentors facilitating and acting as guides, with the full acknowledgement that novice teachers bring prior knowledge and experience to the learning engagement. Mentors and novices set their individual and collective learning goals, and are instrumental in developing their own methods of assessing how they meet these goals. Mentors provide the individualized implementation of a generic program.

Induction and mentoring programs such as those reviewed have a tremendous impact on novice teachers in their transition into the school culture. They provide multiple supports for the novice teachers, facilitating their development into seasoned teachers. Mentored teachers are more reflective, more insightful, and tend to start thinking about the impact of their teaching on learners ahead of other teachers who are not in mentoring programs. They move more quickly beyond survival mode teaching to becoming learner-centered educators, and according to the SCNT program (which conducted research on 19,000 teachers), are considered to progress to the same level of professional competence as other third year teachers, within their first year.

Finally, it has been repeatedly stressed in the literature review that adults should be empowered as they learn. If the goals of adult education include change in consciousness (Freire, 1972) or meaning making (Mezirow, 1998), strategies to empower the learner are essential. Wong (2004) stated that true learning and empowerment will occur if learning is "turned over to the learner." Ultimately, if individuals take responsibility for, and are able to influence and change their environment, based on an educational experience, then they have been empowered (Lawler & King, 2003). Taking

into consideration the numerous ways in which teachers learn, and grounded in the range of adult learning principles and the practice of adult education (Lawler & King, 2003; National Research Council, 2000), providing induction programs, such as those reviewed, would be an essential starting point in realizing the provision of "every child with a highly qualified teacher" (NCTAF, 2003).

CHAPTER 3

RESEARCH DESIGN AND METHODOLOGY

Case studies are used extensively in social science research despite the methodology being stereotyped as a "weak method" (Yin, 2003) and sometimes being described as "confusing" (Merriam, 1998). Merriam (1998) summarized the various approaches used by current case study research design, in order to illustrate how these various approaches add to the general understanding of what case study research is, despite their different foci. According to Merriam, some authors focus on the process of conducting a case study, such as Yin (1994) who focused on the research process, where a phenomenon is studied within its context. Stake (1995) focused on the unit of study. Other experts, such as Merriam (1998) and Wolcott (1992), have defined a case in terms of its end product. Finally, Merriam concluded that it is her belief that the "single most defining characteristic of a case study research lies in delimiting the object of the study – the case" (Merriam, 1998, p. 27).

Multiple case study methodology falls within the qualitative research paradigm and is particularly useful for research that is anchored in real-life situations and for the reasons outlined below. Firstly, case study methodology lends itself well to studying contemporary issues, such as teacher attrition, where behavior cannot be manipulated. Secondly, in order to fully understand and describe the complex web of interactions which occurred as they entered the field of teaching, I personally conducted the research on site, through face-to-face interaction with the novice teachers (Marshall & Rossman, 1999; Merriam, 1998, 1999; Yin, 2003). Thirdly, my interest was in the process (learning to teach) rather than the outcome (being a good teacher); in the context (within their school situation) rather than the specific variables; and, in discovery (how they learn to teach)

rather than confirmation (stating empirically that teachers learn in the following manner). Finally, my research questions explored the how and why of novice teachers learning to teach (Yin, 2003), and my study relied on a variety of data collection techniques which is typical of case study methodology (Gall, Borg, & Gall, 1996; Merriam, 1998; Yin, 2003).

Within this methodology, my study included elements of both descriptive and interpretive case study design (Merriam, 1998; Yin, 2003). My study, in accordance with descriptive case study design, illustrated the complexities of learning to teach, and how many interactions contributed to this phenomenon. In order to provide a detailed description of the phenomenon of learning to teach, both formal mentoring and induction, and informal interactions that take place within the first semester, illustrated how individual personalities, as well as the passage of time, influence how novice teachers learn to teach. Furthermore, the rich, broad descriptions contained in this study can be used to support my initial assumption that all interactions provided a broad and diverse range of opportunities for novice teachers to be mentored within their first few semester of teaching.

Insights gained from multiple case studies such as this one, can directly influence practice (Gall et al., 1996; Merriam, 1998; Miles & Huberman, 1994; Yin, 2003) by identifying common and congruent experiences across the cases. This study was intended to give voice to the participants, to add to the current literature on mentoring, and to advocate for structures to be put into place within the school which might facilitate informal interactions between faculty, as part of the larger mentoring of novice teachers.

Pilot Study

The questions in this study emerged from a literature review on induction and mentoring programs in the US, as well as from a pilot study I conducted in 2005 in which

I sought to determine novice teachers' perceptions on how formal mentoring impacted their learning to teach. Results from that pilot study illustrated that, despite novice teachers undergoing a formal induction and mentoring program within their school districts, novice teachers' interactions with other members of the larger school community were as essential to their survival and learning to teach as were the mandated, formal, one-on-one mentoring relationships.

Research Questions

In order to ensure that comprehensive and comparable cross case data were collected to describe the broad mosaic of mentoring that novice teachers received or sought, the research questions had different foci at various phases of the research process during the participants' first semester. The research design included the collection of consistent temporal data across each case, throughout the semester, systematically collecting data that explored each case's evolution of meaning making over these phases. Each phase was studied (and then the next phase) and depending on what the participants experienced in the first phase, the data were analyzed in terms of the ongoing process and how that process impacted their learning to teach.

The overarching questions for this study were:

How do novice teachers perceive the impact of the multitude of their mentoring interactions in the process of their learning to teach?

Why do particular interactions provide support to novice teachers as they learn to teach?

In order to provide answers to the above questions, specific questions included:

What type of information do novice teachers receive during their induction programs?

What type of mentoring do novice teachers receive from their assigned mentors?

Who do novice teachers interact with in their daily routine during their initial semester of teaching?

How often and where do these interactions take place?

Setting and Participants

This study included five teachers teaching in four public schools in Western Massachusetts. The four schools were a rural middle school, an urban middle and secondary school, and a suburban middle school (Appendix A).

These five participants experienced a broad range of teaching situations with respect to differences in school size and type, and student demographics among cases and in comparison to the state demographics. The following statistics illustrate the biggest differences within each case: Massachusetts has a 71.5% white student body and only 14.9% of the students do not speak English as a first language; 28.9% of the students are considered low income, and students in special education across the state constitute 16.9% of the student body. The state graduation rate is 79.9% and the state has 91.5% core academic teachers who are considered to be highly qualified.

The first and second cases: Brenda and Joye taught in an urban school district where the racial demographics differ considerably from the state with 74.6% of the district's student body identifying as Hispanic and 20.9% identifying as Caucasian. A more compounding consideration is that within this district, 51.3% of the students do not speak English as a first language. Furthermore, 76.8% of the students are considered low income and 25% are enrolled in special education services. The district has a graduation rate of 49.4% and only 88% of its core academic teachers are considered highly qualified. These statistics illustrate that these two cases are remarkably different from the state and

very different to the specific participants' own school and college experiences. Within this district there are further differences worth mentioning. The middle school where Brenda taught is in a Hispanic neighborhood, within a very poor part of the town and has a 77% Hispanic student population with the rest of the student body being mostly white, whereas the high school where Joye taught has 57.2% of the population identifying as Hispanic and 37% identifying as white. The middle school has 86.8% of its student body considered low income, and 26.9% in special education. In the high school, numbers in special education drop down to 10.5% and 54% of the student body is considered low income. The drop in the percentage of special education students once they enter high school could be due to a number of factors, such as students opting out of the local high school to attend substantially separate programs in the town, as well as the high drop-out rate (only 49.4% of students graduate) and students being discharged from special education services once they reach the high school.

The third and fourth cases: Randy and Bella both taught at a rural middle school whose demographics vary considerably from the first two cases. The middle and high school makes up the entire district and as such the middle school is actually part of the high school, within state statistical data, as well as housed in the same building with the same principal and superintendent. Ninety percent of the students in the district are white and 2.1% do not speak English as a first language. In terms of socio-economic level, this district is on a par with the urban district with 42% of its students considered to be low income and 17% of the students enrolled in special education services.

The fifth case: Andy taught at a suburban middle school. This school's demographics lie somewhere between the first four cases. With respect to race, 89% of the students are Caucasian, 16.8% are low income, and 2.1% of the student body do not

speak English as a first language. The graduation rate of students in this district is 88% and 89.8% of the core academic teachers are considered to be highly qualified.

The five specific cases in this study included one secondary and four middle school novice teachers during their first semester of teaching. This particular time period was selected as it is considered by some to be the most vexing for novice teachers as they experience "reality shock" (Veenman, 1984) on entering the profession, and as such, they could be considered to be in a state of disequilibrium, feeling anxious and perhaps open to seeking advice, hearing it and acting upon it.

Gaining Access

In order to gain access to novice teachers in the area, I approached superintendents in various school districts in Western Massachusetts. Three superintendents responded positively and thus the initial call was followed by a letter requesting formal consent to conduct research in their school district (Appendix B). After receiving written consent, I made telephone contact with the Principal of each school within the districts. Three principals responded positively and I then sent them a formal letter explaining the research (Appendix C). In this letter I requested information on whom to approach in order to access novice teachers entering the teaching profession.

In all three cases, the principals themselves supplied the names of the novice teachers, and I sent them a letter explaining the research project with a letter of consent attached (Appendix D). Novice teachers were given the choice to respond to this request or not (Appendix E), I also approached various novice teachers who had completed their teacher preparation programs at the University of Massachusetts the previous year, and who were teaching in Western Massachusetts, to participate. Two of these responded positively, after which I made contact with their superintendents and principals to gain

permission to conduct research within their schools. Once I had established connections with the numerous stakeholders at the various schools, I obtained permission to attend the district-wide orientation and any other induction activities.

Participant Selection

From the complete list of participants willing to consider participating in this study, five novice teachers were selected using the following criteria. Teachers from both middle and secondary schools were selected for two reasons. Firstly, this study set out to investigate how these teachers learned to teach in terms of developing subject-specific pedagogy, as well as general teaching strategies. As many elementary teachers teach a multitude of subjects, the upper grade level teachers are more subject-specifically focused. Secondly, a combination of both middle and secondary schools seemed important as the schools function so differently. The middle schools have team meetings set for each day, and during these meetings they provide a lot of information and sharing, thus providing many opportunities for interaction. In contrast, the secondary school has department meetings set for once per month and so it was interesting to learn whether and to what extent the secondary school teacher sought interactions with other faculty on a daily basis.

Thirdly, it was also important to take the pairing of mentors into consideration. Participants who provided a combination of in-subject and out-of-subject formally assigned mentors were selected. Three of the participants had mentors within their subject areas/levels, and two had mentors in other subject areas, so that enabled me to compare in-subject mentoring with out-of-subject mentoring. I was particularly interested in determining which of these formal mentoring arrangements provided the novice teachers with reason to seek out others within their subjects areas, and to interact with them in

order to learn to teach, or if there were, indeed, any generalizeable differences in their need to connect with other faculty. Furthermore, both male (n = 2) and female (n = 3) participants were included.

Finally, it was important to establish which novice teachers were willing to help with data collection, especially during the second phase where they were asked to keep a self-report log (Appendix F) of their interactions. In order to collect comprehensive data, it was imperative to work with participants who enjoyed research, and were willing to give some time and energy to this study. Once all the above criteria were taken into account and the full scope of the project was explained, the participant pool was reduced to five willing participants.

The following section describes the five participants as a means of providing a context for understanding the data that were produced and analyzed in this study. Each description details pertinent information relating to the respective participant – at the time of the study – and describes the schools, teaching assignments and experiences of the participants in relation to their district and school induction and orientation programs, and their experiences of mentors and of mentoring.

Participant 1: Brenda

Brenda was a 47-year-old female completing her first year, teaching grade 8 Physical Science at an inner-city school in Western Massachusetts. She had completed an 18-month Masters Degree and certification in teacher education at a large state university in Western Massachusetts. During this period, she participated in her student teaching practicum at a rural middle school in Western Massachusetts.

Her induction experience into the school district consisted of a series of two-day workshops for all new teachers, which took place prior to the beginning of the school

year. The initial induction program consisted of two days of information sessions that focused on the administration of the district, and a number of workshops on teaching English Language Learners (ELL). Some of the ELL workshops were conducted specifically for middle school teachers while others were conducted for new teachers from across the district. The second series of two-day workshops focused on Science teachers and consisted of reviewing the various Science curricula for the district, some sessions focusing on middle schools, some on high schools, and others focused on Science teachers across the district. Finally, because this school district has a partnership with America's Choice[1] a series of workshops were presented which focused on how classrooms should be managed and how lessons should be conducted, in accordance with the principles of America's Choice.

Brenda's school orientation consisted primarily of meeting with the principal (once the position was offered), receiving school handbooks and school and computer codes. She received no formal induction and was assigned a mentor at the start of the semester. The assigned mentor was a 30-year veteran teacher who taught neither Science nor her grade level (grade 8). The mentor had attended a two-day mentor training workshop in the summer prior to the fall of 2007 semester. Notwithstanding this, the relationship started out, in Brenda's words "formally," as was mandated by the school and district, but soon became "very relaxed" and "positive." Brenda reported that the mentor "often comes in to help – if I need technology help – but also if I need help about

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[1] America's Choice is an organization that partners with schools at the local and state level in order to offer solutions to schools as they struggle to meet the standards in this era of accountability (2007).

anything, I could check in with him." She expressed that her mentor played a supportive and non-evaluative role.

Participant 2: Joye

Joye was a 24-year-old female completing her first year teaching grade 9 to 12 Mathematics (IMP, college geometry and algebra/geometry prep) at an inner-city high school in Western Massachusetts. She had completed her Master of Education program at a large state institution in Western Massachusetts, through a one-year immersion teacher education program, and her student teaching practice at small city high school in rural Western Massachusetts.

Joye's district induction experience consisted of two induction days for all new teachers and four days of workshops for Mathematics teachers. These workshops were conducted on Saturdays throughout the fall. Finally, the induction also included some workshops that focused on the district partnership with America's Choice and on teaching and classroom practices related to this program partnership. In Joye's opinion, the workshops were conducted by people and agencies outside of the school, and were not effective.

Joye reported that she had no formal school orientation. She was, however, assigned a female mentor who had been teaching for 20 years, and who also taught Mathematics. Her mentor was only assigned in mid-November of the first semester, almost three months after the start of the school year. This mentor had been trained by the same company that ran the district induction program. Joye reported that the mentor–mentee relationship was "very formal" and that the mentor initially contracted to "observe one class period per week and then meet to discuss this once per week". In Joye's opinion,

"the mentor's presence in the class often sets a weird dynamic with the students" and furthermore, these weekly visits led her to believe that the school "doesn't trust me."

Joye expressed the belief that she was "not compatible at all (with the mentor) – very different educational philosophies – also no trust" and she felt that the mentor played an "evaluative role and told the principal about things we had discussed."

Participant 3: Rudy

Rudy was a 25-year-old male teaching seventh grade social studies courses at a rural middle school in Western Massachusetts. He had completed a one-year immersion teacher education Masters degree at a large state institution, and his student teaching was completed at a small city school in rural Western Massachusetts.

Rudy's experience of the district induction program consisted of a two-day program for all new teachers (middle and high school teachers). This entire district consists of only one middle and one high school and the induction program was conducted almost entirely with all new teachers together in workshops. The district induction program comprised an overview of, and information pertinent to, district and school rules, guidelines, handbook, unions, and teachers association. Rudy described the induction phase as "overwhelming."

The school orientation occurred after the broader district orientation and new teachers "broke out into small groups – met the middle school coordinator – and met a lot of other new teachers." Rudy viewed this phase as an extremely positive experience and said that "it is so nice to see them all again in the hallways now later in the year." He was introduced to his mentor at the end of the second day of the induction, at which time he asked for curriculum information.

His mentor was a female grade 8 social studies teacher who had been teaching for 15 years. The mentor had done "some mentor training." Rudy reported that the relationship was "formal and relaxed – so the atmosphere is informal, but we are not friends. It is also very organized – we don't really talk unless we set up our formal meetings which occur once a month. She has a check list – she goes through it – and then I get to ask some questions. We teach in very different ways – I did ask for some curriculum materials – but she keeps it at home (as she is not currently teaching that grade) so I never got it." Rudy viewed the mentor relationship as "non evaluative."

Participant 4: Bella

Bella was a 22-year-old female in her first year of teaching grade 7 Science at a rural school in Western Massachusetts. She had completed her teacher education program student teaching (BA elementary education) at a small liberal arts college in rural Western Massachusetts.

Her recollection of the district induction program was similar to Rudy's, where the induction program included all new teachers from the district (which comprises one high and one middle school, all housed in the same building). Similarly, all new teachers attended the two days together and went through information relating to district/school rules, guidelines, handbook, unions, and teachers association. Bella did not meet her mentor at the district induction as the mentor was away, so she met with the high school Science head of department and was taken on a tour of the building. Similarly to Rudy, Bella did not have a specific school induction, but rather, at the end of the district induction, the various school levels broke up into smaller groups where they met the middle school coordinator. At this time, she received a copy of the curriculum.

The mentor assigned to Bella was a grade 7 female Science teacher who had taught for 20 years and who taught in the room adjacent to Bella. Her mentor had received some training and she had "some kind of packet of stuff and a checklist that she goes through each time we meet." The relationship was initially cordial where, "the mentor would come into my room to put lunch in the fridge – so we would greet and chat." At first they "just checked in with each other," but this changed and "now we meet pretty regularly." The mentor has observed Bella teaching and they have been assigned the same preparation period "so we can check in if needed." Bella found the mentor "very helpful" because she taught the same curriculum and as such was able to provide guidance with inter-personal relationships, curriculum, laboratories, equipment, and processes, and curriculum frameworks. "It is a formal/casual but friendly relationship – formal as she is not one of my team whom I am really friends with – but causal in that we do a lot of informal question and pop-ins with each other."

Participant 5: Andy

Andy was a 31-year-old male first-year teacher at a suburban school in Western Massachusetts. He taught grade 5 and grade 6 special education and inclusion. He was completing his two-year Masters degree in special education at a large state institution in Western Massachusetts, and his student teaching equivalent (first semester of teaching) was conducted in a small town in Western Massachusetts.

Andy experienced a district-wide induction run by the guidance department of the high school, and under the leadership of an induction coordinator. The induction consisted of team-building activities, information about unions and representation and human resources. During the induction, groups of new teachers worked with other grade 5 and grade 6 special education teachers.

Andy had no formal school induction and most of the induction was done at the official district orientation. As he recounted, "there is only one middle school and one high school in our district – so we broke up into groups at the official induction meeting."

Andy was assigned a male mentor in special education, but who was not an inclusion special educator. The mentor had taught for many years and was one year from retirement. He was trained as a mentor and had been a mentor before. Andy and his mentor did not share the same preparation time, but they seemed to run into each other during other times. The relationship was reportedly very casual with no mandated meeting times. Andy reported that "he helped me with IEP paperwork and purchasing resources and now he just checks in to see how I am getting along with other teachers – I don't see him very often – but I know that he is here – so that is a comfort." The school did not have formally scheduled special education meetings so they did not meet there either. Andy also reported that the school had formal mentor meetings every six weeks for all mentors and novices, but no individual meetings were mandated.

Researcher's Role

Having worked in educational settings for over 20 years, I anticipated that my own personal experiences and knowledge of teaching could be both beneficial and challenging to manage. On the one hand, as someone who had worked in schools for many years, I had an emic perspective of the life of a teacher, and as such was able to use that knowledge to move seamlessly within the school system without being too disruptive. Furthermore, in my role as a teacher educator, I was able to have access to these participants and gain their confidence. This knowledge also provided me with the background knowledge to understand their current situation and easily grasp the meaning of their interactions and situations. On the other hand, my own personal knowledge and

biases needed to be checked periodically, as it was important to explore the perspective of the participants, and not place my own meaning onto the interactions that were occurring. Despite these initial concerns that my own role would be the most challenging aspect of my research, I found that I was indeed able to conduct this research as a non-participant observer.

Personal Biography

I have a significant amount of experience, in both teaching and mentoring. I spent 15 years teaching in middle and secondary schools, progressing from a novice teacher to a department chair, and this position included the mentoring of novice teachers within my subject area. I also spent one year coordinating the mentoring of new teachers of color, as they entered previously all-white schools (in South Africa), and creating opportunities for these teachers to show their expertise in terms of their knowledge of the black learners. This task included providing community contextualization to an all-white teaching force who were faced with integration for the first time. Since being in the US, I have spent the past eight years working with teacher preparation programs at a large state university and a small liberal arts college, and as such, have worked with student teachers and cooperating teachers in many schools in Western Massachusetts. This has provided me with a good foundation of understanding how teachers and schools operate in this part of the US. Furthermore, I have worked with an induction program called QUEST for the past three years, specifically focusing on providing opportunities for novice teachers in urban schools to identify the gaps in their induction programs, and developing a program to help them work through their first years of teaching.

My Role

With this background in educational preparation and mentoring in both countries, I have a broad knowledge of teaching, mentoring, and the issues that novice teachers face. As an observer, it was important to refrain from offering advice, judging situations from my perspective, and generally involving myself in the novice teachers' interactions with their teaching, the students, and other faculty. In order to help me do this, instruments (Appendix F, G) were developed to collect data at each phase. An added benefit was that it kept me busy, with little time to offer advice or become involved in any way. I also continually asked the participants for clarification of my observations and for their opinion, in order to establish a situation where it was evident that their opinion and understandings were important. In some cases, participants whom I had known as teacher licensure candidates, would defer to me or ask me for ideas about their teaching, and in those instances I attempted to remind them that I was not in a position to respond to those questions, or simply reflected their questions back to them, encouraging them to seek clarification and information elsewhere.

Data Collection Procedure

Data were collected in three phases and included 40 hours of observing induction activities, 120 hours of shadowing participants, five weeks of self-report logs (Appendix F), a tape-recorded mentor meeting, and a final interview (Appendix H) with each of the five participants. A variety of tools were used to gather data, and these differed at each phase of the research. Table 1 describes the data collection tools and the phase in which they were used, followed by a more detailed explanation of the tools and then the process of data collection.

Table 1: Data collection tools and phase in which they were used

Phase	Data Collection Tool
Phase One District induction program Prior to school year	Collecting and Reviewing Documents (from district and school orientation or induction programs) Field Note Observations Non-participant Observer (at Induction/Orientation Sessions which totaled six full days)
Phase Two First semester of teaching	Field Note Observations Shadow Reporter (for three school days each which totaled 120 hours of shadowing) Self-report Log (by participants for one full week each) Recording Mentor/Novice Meetings
Phase Three Final Interview After the first semester December 2006	Ethnographic Interviewing (for two hours each)
Phase Four February/March 2007	Focus Group to discuss preliminary analysis (2-hour session)

Data Collection Phases

The rationale for three phases of data collection is grounded in the assumption that it was necessary to collect data over a period of time in order to use the multiple case methodology for exploring congruence, rather than for comparison. The inconsistency of induction programs and initial orientations as described in the literature indicated that a certain passage of time was essential to develop cross case themes and categories of mentoring.

Phase One: District Induction Program

Initial data were collected prior to the school year during the two-day district novice teacher induction/orientation program, in which all novice teachers participated. The focus of this phase was on the content of information provided by the district-wide

induction program and on the initial interactions between novice teachers and their assigned mentors specifically recording "what" was being disseminated and by "whom" (Appendix F). Once participants were introduced to their one-on-one mentor within this orientation, each initial mentor meeting was also observed and conversations were recorded. During this phase, the following methods were used to collect data, namely: collecting and reviewing documents, and non-participant observer.

Phase Two: First Semester of Teaching

The second phase of the research took place during the first semester of the novice teachers' teaching career. Data were collected on those with whom the novice teachers interacted and the purpose of these interactions as they navigated the early stages of their new roles as teachers (Appendix F). During this phase, three data collection tools were used, namely: shadow reporter (Appendix F), self-report logs (Appendix F) and recordings of mentor/novice meetings. Participants were observed and shadowed, within their first two weeks of teaching, for an entire school day. Their teaching, any interactions and conversations pertaining to their learning to teach, were observed and recorded. This procedure was shared with them, so they had a model of the type of log they were required to keep during the following week. Participants were shadowed for one full day during the second month of their teaching, and finally for one full day during the final month of their first semester of teaching. After each day of shadowing, a meeting was held with the participant in order to obtain any clarifications on conversations that took place but were not audible, or of which the context was not fully understood.

Phase Three: Final Interview and Focus Group

Finally, the third phase of the research took place at the end of the first semester. After phases one and two, a preliminary analysis of each case's data was conducted

(Appendix G). From this analysis, an interview protocol (Appendix H) was structured that allowed individual case clarification, as well as clarification of cross case themes. This was conducted as a purposeful conversation (Marshall & Rossman, 1999) with each participant. Individually, participants were asked to make meaning of their own experiences, and whether or not these recorded interactions, formal or informal, were instrumental in their learning to teach. Once the interviews had been reviewed, a focus group with all participants was held where the emerging themes, categories and findings were critically analyzed, and individual case data were merged so as to develop general findings across all the case studies.

Data Collection Methodology

Collecting and Reviewing Documents

During Phase One, the district orientation program disseminated documents, such as district handbooks, school policies and procedures, and these were collected by this examiner for further analysis. Documents pertaining to the formal mentoring program as well as any other workshops provided for the novice teachers during their first semester of teaching were also collected.

Field Note Observations

These observations entailed the "systematic noting and recording" (Marshall and Rossman, 1999, p. 107) in two distinct situations. Firstly, as a non-participant observer at the district-wide orientation, I kept record of all information shared through observations and also collected any materials disseminated during these programs. During this phase, I attempted to be as unobtrusive as possible, collecting data on the entire program, with no specific connection made with the novices who would be participating in the study.

Secondly, in a more personal, one-on-one situation with individual participants, interactions between the novice teachers and other faculty, students or community members were recorded. These observations took place in various settings during the first two phases of this research as outlined in Table 1. Detailed field notes on the conversations that took place, on any information sought, or shared, were recorded as verbatim as possible. For this purpose I used a laptop computer and a personal voice recorder. These observations focused on only interactions where some sort of advice or information pertinent to teaching and learning were sought.

Shadow Reporter

During Phase Two, I worked one-on-one with the participants, and followed each one for at least three different days of the week, during their first semester of teaching. This resulted in 120 hours of shadowing and data collection. The purpose of this shadowing was to capture all the interactions of the participants as they moved through their entire day. At the end of each day, we spent half an hour together, during which they were asked for clarification on any interactions observed that were not self evident.

Self-report Log

All participants were asked to keep a simple self-report log (Appendix F) for one whole week, on their interactions with other members of the school community, noting any conversations they had about teaching and learning. Some participants simply jotted these down as they occurred, or after each lesson, and others typed up a list when they found time to reflect at the end of their school day. They recorded with whom they spoke and the basic content of the conversations. This included a total of 25 days of self-report logs (five days per participant).

Recording Mentor/Novice Meetings

During this part of Phase Two, each participant recorded at least one of their mandated mentor meetings.

Ethnographic Interviewing and Focus Group

In Phase Three, I interviewed each participant (Appendix H). The purpose of these interviews was to focus on the novice teachers' perspective of how they learned about teaching. The interviews were semi-structured, framed around the general research questions, and included questions specifically tailored to the data collected prior to this phase from each participant. Open-ended questions were also included in order to allow each individual's voice to permeate, thus meeting the initial goal of the research, namely, to include novice teachers' voices in the dialogue on induction and mentoring. The focus group provided an opportunity to ensure that the findings did, indeed, represent the novice teachers' perspectives, and that their voices were evident.

Data Analysis

Each novice teacher was considered as a separate case. Participants from three school districts in the Pioneer Valley area were included. These three school districts are very different, and can be described as rural, urban, and suburban. The intention of this research was not to compare cases, in order to determine the quality of mentoring provided, but rather to conduct cross-site (case) analysis. While retaining specific site information, comparative case analysis was employed to identify major themes and to describe the mosaic of mentoring that occurred as novice teachers learned to teach. Researching this broad range of schools provided enough data to strengthen the validity and stability of the findings of this study (Miles & Huberman, 1994).

Organizing the Data

I collected and systematically entered data on a weekly basis. All notes and recordings were transcribed as the data were collected. During this process, I read and reread the transcriptions in order to become more familiar with the emerging data, and I kept analytical notes on cards. All documentation and information was sorted on a participant by participant basis. After phases one and two were completed, a comprehensive description of each participant's interactions and the mentoring they received (Appendix G) emerged. At that stage, a preliminary analysis was conducted in order to generate some themes and identify any patterns, and these were used to draw up the final interview protocol.

Data were analyzed employing a grounded theory approach in order to generate theory that elucidates the participants' particular perspectives, and that honors their views (Strauss & Corbin, 1998). Personally conducting and transcribing the interviews allowed for preliminary analysis during this initial interaction with the data. Once all the data had been collected, and the interviews transcribed, a microscopic re-examination of the data was conducted, using open coding to identify concepts and categories. These were then classified according to themes, seeking clarification and more in-depth description of the themes, and among the themes. Once this preliminary analysis was completed, each participant was sent their original interview, as well as a copy of the initial classifications and interpretations. They then responded, writing on the transcripts sent to them, in order to provide further clarification and explanation where they felt it was required.

Testing the Emerging Understandings

Once I received feedback from the participants, I deepened the analysis, to further develop categories and themes using axial coding. I then invited all the participants to join

me for an evening where we held a focus group and looked at the various themes that had emerged, and how they responded to the original questions. After the focus group, I was able to develop the properties and dimensions of each category more fully.

Limitations of the Study

This study included only five participants and, as such, did not propose to offer comprehensive solutions as to how a school should be organized in order to offer maximum support for novice teachers in their learning to teach. The study looked at how a specific group of novice teachers made meaning of their interactions which were intended to provide them with support as they learned to teach. Also, as each participant was shadowed for only three days (120 hours in total), I was unable to capture all their mentoring/interactions. Furthermore, the participants' self-report logs for five school days were completed at various levels of detail and thus, did not offer consistency in terms of overall depth and breadth of information. Three of the participants kept meticulous notes and provided a lot of extra information and detail about their interaction. One participant provided very little in terms of his self-report log, but spoke about many interactions at the interview phase. Finally, the fifth participant did not keep a log during the week, but when approached to hand it in, she put together a log on what she could remember.

Trustworthiness and Ethical Considerations

I personally conducted the research in the field (at the novice teachers' schools), gathered the data, transcribed the interviews, and analyzed the data (Gall et al., 1996; Marshall & Rossman, 1999; Merriam, 1998, 1999; Yin, 2003). Furthermore, the novice teachers were invited to review the data, after the initial analysis, in order to provide further clarification. In order to ensure anonymity beyond the group of participants who were part of this study, no proper names or names of the schools at which they taught

have been used. Although this study did not set out to evaluate any induction program per se, the results did highlight a school or district's lack of induction, and as such it is important not to disclose the specific schools' names. None of the participants is necessarily a member of a "vulnerable population" (Gall et al., 1996), and as such no special precautions to protect them from risk have been taken. Each participant willingly signed an informed consent form (Appendix 3), on which the purpose of the research is described and how the data would be collected, analyzed and disseminated. The research proposal was also submitted for Human Subjects Review, after I completed the CITI training on line, to ensure that this research would be considered ethical.

CHAPTER 4

RESULTS

The format and duration of the mandated induction and mentoring programs provided to the participants in this study varied considerably, which is consistent with national trends. Despite this lack of programmatic consistency, participants received support through a mosaic of mentoring during their first six months as teachers, which formed the focus of this research. This study determined that the mentoring the participants received, occurred within three conceptual spaces. Within each of these conceptual spaces, the mentoring occurred at three levels, the macro, the meso, and the micro.

Two of these conceptual spaces exist within the formal bureaucratic structures of each district. First, mentoring occurred within the specific structure of the mandated official induction program, as part of the larger professional development of the school district. At the macro level, the official induction team provided an initial orientation and sustained professional development, at the meso level, each specific school's administration provided an initial orientation prior to the start of the school year and sustained support through regular faculty and department meetings, and at the micro level participants were provided with one-on-one support through formal mentoring and other interactions specifically planned to individualize a mostly generic induction program.

The second conceptual space within which formal mentoring occurred, was the general structure of the school as a workplace, hereafter referred to as school ecology. At the macro level, the physical presence of various administrators due to the geography of the district, in terms of the physical placement of the school/district buildings, and the layout of the school building, along with the systemic organization of the district and

school, provided a formal structure within which mentoring occurred. Within the physical structure of the school building, the use of specific space to 'house' teams or departments, and the systemic organization of these teams/departments provided the meso level of support. At the micro level, mentoring was provided on an individual basis through physical features such as the physical use of space within the classrooms and the physical presence of people, carrying out their particular responsibilities within the team/department.

These first two conceptual spaces, the formal induction program and the school ecology, created opportunities for the development of the personal connections that constitute the third conceptual space: Informal Networks. Within the informal conceptual space, differences at the macro, meso, and micro level were marked by the nature of the personal relationships experiences by the novice teachers.

For each conceptual space, the source of the mentoring, or the forces that influence the development and nature of the mentoring, differ. Within each of these conceptual spaces the source and nature of the mentoring differed at the macro, meso and micro levels. The following framework provides an overview of the mentoring provided to participants in this study within each conceptual space, and at each level.

Table 2. Conceptual Framework: A mosaic of mentoring

Conceptual Space	Level of Support		
	Macro Level	Meso Level	Micro Level
Official Induction Program	Source of Mentoring: District Induction Team Nature of Mentoring: <u>Initial</u>: District Orientation <u>Sustained</u>: District Professional Development Program	Source of Mentoring: Specific School Community: School Administration Department or Team Leadership Nature of Mentoring: <u>Initial</u>: Official Induction Meetings, Department/Team Meetings <u>Sustained</u>: School Meetings Department/Team Meetings	Source of Mentoring: Official Mentor Other faculty and staff Nature of Mentoring <u>Initial</u>: Mentoring Support (Mandated mentoring meetings and induction program sessions) <u>Sustained</u>: Individual Support (Mandated mentoring meetings, official observations, subject-specific mentoring)
School Ecology	Source of Mentoring: Geography Systemic Organization Nature of Mentoring: Physical Presence of District and School Administration in building and in formal settings	Source of Mentoring: Use of the Physical Structure/space within the school building Team/Department Organization Nature of Mentoring: Physical Presence of the Team/Department in building and in formal settings	Source of Mentoring: Use of Physical Department/Team space within the school and the classroom Individual Responsibilities within the Team/Department Nature of Mentoring: Physical Presence of Individuals on a daily basis
Informal Networks	Source of Mentoring: Personal Connections within the District and School administration Nature of Mentoring: Informal individual interactions	Source of Mentoring: Department Chairs, Team Lcaders, Team Members Nature of Mentoring: Team/Department informal interactions (lunchroom discussions, before and after meetings)	Source of Mentoring: Individuals within team/department (Mentors, other faculty, schools staff, parents and the community, students) Nature of Mentoring: Individual interactions and self reflection

Official Induction Program

As mandated by the Massachusetts Department of Education (Massachusetts Department of Education, 2001) all the participants in this study underwent an induction program prior to the school year, as well as continued induction within various professional development sessions throughout the school year. Analysis of participants' discussions reveals that official programs offered support on three levels, the macro, meso, and micro. At each level there were specific people responsible for this mentoring and, furthermore, both initial and sustained support emerged as essential for the participants at all three levels. The type of mentoring differed considerably at each level, starting with the broad district induction program goals (macro), narrowing somewhat with each school's specific focus (meso), and finally individualized mentoring for each participant (micro).

Macro Level

Source of Mentoring

At the macro level, the district induction program team provided the formal mandated support systems, some more efficiently than others. In three of the districts, this team consisted of various district personnel and designated faculty. One district hired an outside agency, America's Choice, to coordinate its induction program. In all cases the Superintendent, Principal, and Induction Team Coordinator and various faculty members were involved in the initial induction, as well as the semester-long professional development sessions. Rudy sought other formal induction supports. He joined an organization called The Teachers' Loft, as he expressed the need to supplement the semester-long district mandated official meetings. The Teachers' Loft provided formal support outside of the district and school environment and was considered to be a "safer"

place to share and explore new ideas as this group was non-evaluative. There were also no possible repercussions for Rudy or other novice teachers at the meetings, should they share their feelings of incompetence or feelings of inadequacy.

> I really enjoyed the freedom and safety that this group provided for me. I mean I definitely think that some kind of a meeting with just new teachers is necessary. I mean it is hard to sometimes admit that something is going wrong, even more so with colleagues, so that is why I think being away from your school setting works well. I think it would be very different in a school meeting or setting, as opposed to an hour away with people you don't see at school the next day. Sometimes we would simply do a "check in" about what is going on and try to share some good things and some challenges we had. After that we would have a conversation where we all shared new ideas and offered advice. I felt that I had advice and suggestions to offer other novice teachers and that was powerful.

Nature of Mentoring

The focus at the macro level incorporated the broader goals of the state and district, and the program provided a "hands off" type of support. At the macro level, the official induction program was more 'generic' and less personalized. The initial induction programs were followed by a variety of workshops and meetings. Despite the varying content and format of these four districts' programs, there were many commonalities in terms of what the participants perceived to be helpful and essential support, at the macro level. Specifically, official inductions programs tended to provide both initial and sustained formal mentoring over time.

Initial Support

Initial support, across all five cases, consisted of an orientation program held prior to the school year at one of the schools within each participant's district. The agenda was set and coordinated by the induction program team, bringing the various stakeholders within the district together from the outset. All these initial orientations included a welcome by the district superintendent, a basic overview of the district's mission, district

policies, and procedures, dissemination of numerous sets of documents, and other presentations by various personnel from human resource departments and professional teachers' associations or unions. The format varied somewhat, but was mostly conducted through large group meetings, small break-out sessions, and an initial mentor-novice meeting. Across the board, the participants experienced this as rather intense, in terms of the range of people who were involved, the pace of the meetings, and the volume of information shared. Brenda's comment when looking back at her experience three months later captured the feelings expressed by all the participants rather succinctly:

> As a new teacher, it all seemed a little overwhelming to me. I mean I am a packrat, so I kept everything they handed to me and maybe I will get to read it someday. I must say that it is still a little "blurry", but basically I remember going to numerous workshops, meeting many people, and being shuttled around the city from district meetings to school meetings. I can't really remember which of these were "new teacher" meetings, and which were subject meetings, or simply middle school meetings.

Conducting an initial orientation program as a means to induct novice teachers is standard practice across the nation, and this research has confirmed other current research, which indicates that this alone is insufficient, but should be sustained by continued support throughout the school year, integrated into the district professional development program.

Sustained Support

All the participants experienced varying types of sustained support in the form of workshops and meetings which novice teachers were mandated to attend, as part of the district professional development program. These were conducted over weekends or in the evenings, either on the school premises or at a central location within the school district. Some of these workshops were geared toward novice teachers, and others toward all teachers, but they were all part of the district induction and professional development

program. These workshops and meetings offered more in-depth information than the initial orientation sessions, covering various topics, including: classroom management strategies, modifications and adaptations to support Special Education Individualized Education Plans (IEPs) for specific students, providing additional support for students who were English Language Learners; and subject-specific curriculum development and assessment. Participants reported that continuous interaction at the macro level throughout the year proved incredibly helpful. Well-planned programs offered opportunities for further expansion of topics which had been addressed during orientation, after the novice teachers had immersed themselves within the culture of the school and community, and thus had a context within which to place the information provided. Rudy, who took advantage of every professional development workshop that was available to him reported:

> ….in terms of lesson planning and classroom management, I guess I really got a lot out of this one professional development workshop I attended. Bella and I actually traveled to it together – it was one Friday. All the way to the workshop we spoke about our students and what was going wrong. And on the way back we had so many great ideas that we were going to try that next week. It was really helpful to be able to talk to her, I mean I didn't have time to digest all of the information – but we brought home a large binder with great ideas. I know have this huge book of classroom management ideas. Of course by third period Monday I was already figuring out which worked for me and which didn't. In fact we had a workshop on classroom management during the orientation days, but we had so much information thrown at us then, I really didn't remember it all. Now that I think back, many of the strategies we heard at the workshop,were also in the packet of information that the Department Chair shared with us during orientation.

The district induction program (as part of the district professional development program) provided initial and sustained support for the participants. However, a clear distinction emerged between the macro level and the mentoring provided by each participant's school at the meso level. Further, individual participants experienced varying degrees of the effectiveness of mentoring at each of these levels.

Meso Level

Source of Mentoring

At the meso, or intermediate, level, initial mentoring was provided within each school by members of the specific school community, as a planned extension of the district orientation program. Furthermore, sustained mentoring was provided through daily "hands on" interactions throughout the school year. The mentoring was provided by various members of the school administration, the middle school team or subject department chairs and teams, other veteran faculty, staff, and peer novice teachers.

Nature of Mentoring

The focus of mentoring at this level was to taper the broad district goals and expectations to provide support for the novice teacher as a member of a specific school, department, or team. All the participants experienced a well-defined initial support program, as well as sustained support systems within their schools.

Initial Support

Initial support and mentoring was provided within the official orientation within two venues, namely, official orientation meetings and department/team meetings.

Official Orientation Meetings. The initial district-wide orientation program was followed by a school-based orientation. This program included sessions conducted by various school administrators who offered a personalized school welcome and orientation. Specific information about each school's mission, policies, and procedures, and each novice teacher's professional responsibilities were the main topics presented. All the participants reported participating in group sessions that provided information on the school's policy regarding school rules, taking of attendance, lesson planning expectations, assessment, and use grade policies. Various documents, such as Faculty and Student

Handbooks, School Rules, and Internet Policy, etc. were also distributed during the various initial orientation meetings. Novice teachers were also given an overview of the resources available to faculty in terms of their professional development and teaching needs. In Brenda's case, the school district has been partnered with America's Choice and as such various meetings were held to induct the novice teachers into this system and share how this would impact their teaching. Brenda experienced these sessions as rather tense with various faculty seemingly opposed to being told what and how to teach:

> America's Choice has essentially set up guidelines on how classrooms are supposed to run. We were taught or it was brought to our attention how this program works. The Math and English teachers, primarily, feel that they are being scripted and controlled and are not happy with this. This caused some tension in these meetings. I feel that they will soon be scripting social studies and science too.

The school administration extended the topics of the official induction program, while the team or department provided the link between that macro level of support and the individual participants' concerns and needs within their specific school.

Department/Team Meetings. The initial orientation programs included meetings where novice teachers could meet with their department chairs or team leaders. Within the whirlwind of activity occurring during the orientation phase, these meetings were reported to be the most helpful and effective in terms of long-term retention. The participants reported experiencing a steep learning curve during the district orientation, and thus retreated into a survival mode, filtering information and seeking only tangible ideas from those which were provided at this level that they could put to immediate use within their classrooms. During the focus group, Brenda remarked:

> The members of my team were my life line. I don't know how you all felt! They were immediately accessible, and we met every other day. Besides that we all saw each other in the hallway between classes and you could quickly ask for clarification or run an idea by someone between periods.

Initial support, despite being identified as essential, was only part of what the participants needed. After the initial weeks of teaching, participants reported emerging from a survival mode of functioning and beginning to fully recognize the complexity of their jobs. They reached a stage where they were ready to engage with other faculty in search of more information in order to meet the demands of their teaching and their students' learning.

Sustained Support

The official induction program was an integral part of each school's professional development program and continued throughout the school year. At the meso level, department chairs, team leaders, and other veteran teachers were included in the planning and leading of various workshops for novices and other teachers, during the year. Adult learning theories indicate that adults prefer to learn concepts that are contextualized, or can be put to immediate use. Thus, the inclusion of the meso level of management in the induction program provided these participants with opportunities to extend their learning at times that made the most sense for them. Mentoring continued for these participants through school meetings, and department/team meetings.

School Meetings. At the meso level, the principals or assistant principals continued to expand on their initial novice teacher orientation program, through various workshops and school-wide professional development sessions. Some of the initial topics and concepts covered were also included in faculty meetings, but covered to a lesser degree at this level, as these meetings were mostly used to address the "business" of the

school. However, all the participants reported attending faculty meetings that specifically focused on many of the topics that "flew right over their heads" during orientation. Thus, continued discussion at this level was helpful to readdress these important topics. It also allowed them the space and time to gain a better understanding of the school; thus, they were able to participate more fully at a later stage in the semester.

Department/Team Meetings. Department and team meetings were also used to extend initial induction goals. Sometimes in lieu of regular department/team business meetings, time was specifically set aside to work with novice teachers within each department/team. These sessions provided a narrower focus of the overall induction goals, were more "site specific", and conducted in a more "hands on" manner. These meetings were either grade or subject specific, purposefully focusing on meeting standards, teaching within the curriculum frameworks, the curriculum to be taught, resources available for labs, and other curriculum-related issues.

The official induction program in these three school districts provided support at the macro level,where the mentoring was more general and 'generic, at the meso level as discussed above,where the mentoring became more specifically contextualized to the school , department or team, and at the micro level where the formal induction was more focused on the individual teacher.

Micro Level

Source of Mentoring

At the micro level, each participant was assigned an official mentor, who provided the individual one-on-one support which served to individualize the broader induction programs for each participant. Furthermore, the format of these formal induction program

meetings and workshops, allowed the participants to receive mentoring from various people within the district, school, and team.

Nature of Mentoring

The structure of the official induction program provided individualized mentoring for the participants during the initial district orientation and sustained this support during the first six months of their teaching.

Initial Support

Mandated Mentor Sessions. During the orientation phase of the official induction program, four of the five novice teachers were introduced to their district assigned mentor who would continue to work with them during the second phase of induction. The fifth novice teacher, Bella, was unable to meet with her mentor at that time, and so met with her subject specific department chair, who became one of her "unofficial" mentors. Bella then met with her mentor within her first week, and continued to work with her as well. Novice teachers' initial meetings with their mentors thus provided a much-needed opportunity for the information provided within the district orientation to be individualized and reduced to manageable levels.

Induction Program Sessions. During the initial induction and orientation, many veteran teachers were incorporated into the actual program. They presented on a variety of topics, including: school technology, disciplinary procedures, extra curricular activities, and the use of the library. Beyond these formal presentations, participants found themselves connecting with other novice teachers and faculty at every available opportunity. They reported needing either to ask for clarification on information they had received, or simply to share a concern or an idea. The various workshops and information

sessions often left them with more questions than answers, and in some cases, feelings of uncertainty, so they sought dialogue with others to discuss these issues.

Sustained Support

Mandated Mentor Sessions. Mentors were expected to work with their novice teachers for the full duration of their first year of teaching, thus providing sustained support for the participants. Mentors were an essential element in providing sustained support. Within the official induction program conceptual space, the mentors had roles at each level. As part of the induction program, team mentors functioned as facilitators within the workshops. At the micro level, mentors served as partners to the novices at formal mentor/novice meetings. The official induction program mandated the formal relationship between the novice teacher and the assigned mentor. However, the distinctions between formal and informal, and macro and micro levels, overlap somewhat with respect to individual mentors and the support they provided. In some cases, the relationship remained somewhat formal, where the mentor simply carried out the formal objectives of the induction program and took on an evaluative role. In others, the relationship deepened and the mentor's support was fluid and extended beyond the formal boundaries of the program. This is one examples of how mandated or systematic conceptual spaces allowed for the development of Informal Networks, as I will address later in this chapter.

Official Observations. The official induction programs required that within the first six months, each novice teacher should be observed at least once. They were also required to meet regularly with their assigned mentors for formal meetings and post regular observations. All the novice teachers recalled receiving specific help and support in terms of sharing ideas about: classroom management; students in general (how to deal

with adolescents); individual students and their needs (mentors in certain cases had previously worked with these students and could provide necessary information on them); general teaching strategies; discipline ideas; and Special Education IEP modifications and adaptations, and general inclusion ideas.

Subject-Specific Mentoring. Three of the novice teachers had mentors in the same subject area that they taught (though not the same grade or level) and they reported "rich" discussions and sharing information about: curriculum development and implementation; subject specific teaching strategies (such as lab work for biology and manipulatives for teaching mathematics); lesson planning; assessment of students' learning; and sharing valuable resources, and ideas to enhance their teaching. The levels of conversation between the participants and mentors within the same subject area deepened as the year progressed, and the roles that the mentors played moved from a simply "local guide" type of involvement to becoming an "educational companion" and, in one case, reached the level of "agent of change" as described by Feiman-Nemser and Parker (1993). The participants also interacted with other faculty and staff, and peer novice teachers, more so than if they did not have a close relationship with their mentor.

The official induction programs imbedded within the professional development program of the schools provided an initial orientation and sustained support for the participants throughout the first six months. As sustained support was one of the intended outcomes of the official induction programs, this research has confirmed that this goal was indeed met.

This study revealed that although the formal induction program played an important role, school ecology, played an equally important role for the participants. The particular physical structure of the school, along with the systemic organizational

structure, provided opportunities for the participants to interact with many people, which ultimately provided further formal mentoring for them during this time as well as creating a space for Informal Networks to develop.

School Ecology

School ecology broadly describes the conceptual space within which each participant functioned every day. The source of the mentoring provided within the school, occurred at the macro, meso, and micro level. At each level the nature of the mentoring was determined by two distinctive features; namely the physical features and the systemic organizational structure of the school. At the macro level, the school ecology as a conceptual space emerged from the physical structure of the building, the physical presence of administrators as a result of this physical structure, and the administrative structure of the school system. At the meso level, the physical structure was more specific to the space in which teams and departments worked as well as the organization of teams and departments. At the micro level, classroom design and usage as well as individual interactions resulting from systemic organization (e.g. consults with special education teachers, etc.) allowed for continued mentoring.

Macro Level

Source of Mentoring

At the macro level, the district and school administration provided support by virtue of their administrative style, and physical presence within the schools. The systemic organizational structure of the school allowed for multiple opportunities to engage with the administration, and this emerged as helpful for the participants. Interactions with the various administrators during the course of their first six months were often reported as

being helpful in terms of learning the overall culture of the school as well as the day-to-day policies, procedures, and expectations.

Nature of Mentoring

At the macro level, specific physical features, namely, the physical structure of the school, and the physical presence of administrators in the daily lives of the novice teachers proved to be a source of support as they learned to teach, as did the systemic organizational structures put into place within the school district.

Physical Features

The structure of the building at the macro level did not feature as prominently in terms of support provided as at the other levels, but the open work environment introduced during the official induction program bore fruit, in that the participants all felt the administrators' doors were always open to them. All the novice teachers said they felt comfortable about visiting the administrators with questions and concerns. Furthermore, the support the participants felt through the continual physical presence of the administrators either in or near their classrooms emerged as a common thread during the focus group meeting. All the participants experienced pop-ins at any given time by various administrators, including the principals, the district curriculum coordinators, the special education directors, guidance counselors, and school adjustment counselors. During the first few days, participants also engaged with the janitorial staff, secretarial staff, and nurses, and there was consensus that without the help of these members of the staff, life would have been a touch more difficult. Documentation, which was made available, such as faculty handbooks, student handbooks, and specific students' IEPs, also provided information, although more so over time, as initially these documents all seemed overwhelming.

Systemic Organizational Structure

The participants all attended schools where the administration were involved in the various day-to-day activities of the school. The school system included various features that created support systems for the participants. Some examples included:

Creative Scheduling. At the macro level, features such as common preparation periods at the same time as their mentors, and free periods to observe their mentors, were considered essential in order to further develop the mentor/novice relationship. This structural feature was fully embraced by four of the participants. Another feature that provided opportunities for interaction with peer novice teachers was a common period per week when many of them were free. These periods created opportunities for novice teachers to engage with others experiencing similar challenges and concerns. They also gave rise to peer mentoring as this space seemed safer than sharing with other veteran teachers.

Small Schools Model. The concept of small schools within four of the participant's schools served them well in terms of daily support. Each of the middle school participants taught within a "team" which consisted of five or six teachers, who in turn all taught the same group of about 120 students. The participants were thus only exposed to a small number of students per year, and worked intensively with a small group of teachers, support staff, and parents which seemed much more manageable than the experience of the secondary school teacher.

Mandated Meetings. District/School Meetings: All teachers were expected to attend faculty meetings or district/school-wide meetings, professional development workshops, and novice teacher workshops, which once again provided further opportunities for participants to interact with other professionals. Despite their initial

perceptions of these meetings as overwhelming, they subsequently experienced them as necessary and informative.

Individual Education Planning (IEP) meetings: These meetings were run by the principals, assistant principals or special education directors. The meetings served to provide contact with other faculty, parents, and students. All the participants found the information shared through the discussion of a specific IEP to be invaluable. Special modifications or adaptations for individual students were discussed, and specific strategies for those students ultimately provided the participants with tools to better plan and deliver effective instruction for all their students. The participants also found the information shared by the parents to be extremely helpful, especially when parents were able to share information that had worked previously with their child. The participants also found the information shared by the parents to be extremely helpful, especially when parents were able to share information that had worked previously with their child, such as in this instance that Rudy described:

> We had an IEP meeting one day where the mom gave me advice on how to help her child – it was not a modification actually – it was more like a story she told me about her child and his 5th grade teacher and how this student really had a hard time letting things go. He is a perfectionist and so if he thinks that he cannot catch up with all of his work (if he missed a day or two) then he gets stuck. He can't move beyond that. So his teacher decided that the only way to mobilize him was to tell him that once he had missed work, it was gone and he could not catch it up. He had to leave that and start to work on his current work. So once he knew he was not allowed to go back and try to catch up everything, he was able to start on his current work. So that is what I did. I gave him zero's for the missing pieces, and told him that he had to continue with the current work. He was then able to pass my class by simply completing the current work. He was failing and now he raised his grades to a C and it was just because she was able to tell me that story that I was able to help him. That really helped me.

Parent evenings: Participants reported having to attend a parent/school open house, which provided more interaction and opportunities for them to learn. While these

may seem a commonplace occurrence, it emerged that the parent evenings were a source of information, not only about specific students but also to learn about the entire community. During our focus group session the participants spent some time listing all the ways in which the various organization of the school provided them with support and information that helped them to teach. One of these poster sheets covered the information they gleaned from attending parents evening which the group divided into four categories.

Table 3. Information obtained during parent evenings

Community Information	**Student Specific Information**
Politics of the town What students do after school and during weekends Why students are bored and get into trouble on weekends	Why their particular child was not performing Setting specific goals for their child Monitoring of student and homework / tests Previous teachers and the impact they had on their child (negative and positive) Socialization of their children Alienation of their children
School Information	**Curriculum and Instruction**
Information on the Principal Current and Previous Teachers Teachers they trust and can talk to Examples of which teachers their children like Discipline issues they have with the school Policies and Procedures that work or don't work for them	Their commentary on the curriculum and its relevance to their children's lives Resources for extra tuition and out of school help Issues about class sizes Grouping within classes and how their child does all the work for the group projects

Other Features. Brenda and Rudy taught at a school where e-mail communication between administrators and teachers was encouraged. The administrators reportedly responded by e-mail within 24 hours, or on one occasion, immediately came down to the classroom to meet with the participant about her concern. This feature also proved to be a source of support.

Meso Level

Once again, at this level, there is the interplay between the physical building and the physical presence of the team/department members in the daily lives of the participants, as well as the systemic organizational structure of the school, which provided support and mentoring for the participants.

Source of Mentoring

At the meso, or intermediate, level, the middle school team and secondary school subject department were essential supports for the participants. The team concept at the middle schools seemed the most conducive in encouraging interactions and engagement between the participants and other faculty and staff at their schools, both in terms of the physical and systemic organizational structures put into place. The secondary school departmental structure also provided opportunities for collegial interactions, but, due to systemic organizational decisions in each school, these interactions occurred less frequently. Department meetings in Joye's school only occurred once a month and were more focused around content specific issues with less time to interact informally and develop collegial relationships. The department also did not have a general meeting space which could have encouraged spontaneous interactions amongst the various faculty and as such Joye did not necessarily meet some of her subject specific colleagues for days on end.

Nature of Mentoring

In the middle schools, there was a clear and dynamic presence of people, as they all functioned within close proximity of each other. Physcial features such as the structure of the building, which placed people on the same team within a specific part of the building, as well as the continued interaction and presence of people within each others'

spaces, enhanced opportunities for mentoring. The physical structure and the organizational structure together ensured that participants had access to other faculty and staff during the school day. This was due not only to the structure of the building, which physically placed them together, but also the physical presence of the entire team (faculty and staff) in the hallways and making their presence felt.

Physical Structure of the Building

Three of the participants taught at middle schools, which were specifically built with the middle school concept in mind. All the classrooms for a specific team were in one "wing" of the building, clustered around a central hallway where the students congregated between classes with a common lunchroom, bathroom, etc. in close proximity. Between periods, teachers were expected to stand outside their classrooms to monitor the hallways, and they would often interact during these times. Another feature of these schools that played a role in creating interaction was the inter-leading doors between classrooms. Participants reported often "popping in next door" for clarification, or for advice, or information that they did not have. One participant taught in a middle school that was old and had not been built with the team concept in mind, thus this building had not been specifically designed to encourage open communication. However, the administration had housed the team along the one hallway, which also created a sense of community as the department's faculty room was also in the immediate proximity of those classrooms.

Physical Presence of People

In situations where the classrooms for the teams or departments were clustered together, interaction between people was enhanced. Team leaders, other veteran teachers, and peers were always on hand to pop into classrooms. Participants reported that seeing

the same students walking in the hallways resulted in their being able to communicate with the students and get to know them beyond the classroom, thus creating a community of learners. The participants soon felt a level of comfort with all team members, including staff who serviced these students, due to the constant interaction with each other. This physical presence was enhanced by the following systematic organizational structures which were put into place.

Systemic Organizational Structure

The middle school concept offered multiple opportunities for the participants to engage with other faculty and staff at the meso level, through creative and strategic organizational strategies. The organization of the team or the department, team meetings, and team thematic units proved most effective in providing support to the participants.

Team/Department Structure. Andy, Bella, Rudy, and Brenda were all members of strong cohesive middle school teaching teams, who met on a daily basis, either informally or formally. The teams were headed by a team leader, who was sometimes elected by the team itself, and sometimes appointed by the administration. Each member of the team was integral to the functioning of the team as a whole, which created an expectation for the novice teachers to become fully-fledged members of the team immediately. This expectation provided opportunities for reciprocal learning, where novice teachers could share their skills and expertise as well as be the beneficiaries of support. At the high school, the department did not provide this type of daily support, and as such the informal networks (described as the last conceptual space) played a much larger role in Joye's case.

Mandated meetings: These meetings emerged as an effective form of support and provided further opportunities for participants to engage with other faculty every day. The four middle school participants had time set aside every day for a team meeting to discuss

a variety of topics. The team met with a specific focus on some days, and on others they conducted IEP meetings, or met with students or with parents. During the semester, meetings were also held across grade levels and within subject areas, which provided further perspectives and sources of information. Sometimes vertical meetings were held, which gave a clear picture of where the students were coming from and to where they intended going.

At the secondary school level, the participants attended department meetings once per month, where they discussed curriculum issues mainly. These meetings offered opportunities for novice teachers to mix with veteran teachers, and other staff who supported the students, and to learn what they did, and as such, enhanced the participants' teaching. Topics that were covered at team/department meetings included: relaying information from senior faculty meetings; scheduling issues or concerns; school and department policies, and procedures; logistics of the school day/photo day/ thanksgiving, etc.; students in general – age appropriate; specific students; IEP modifications; discipline procedures; teaching strategies; curriculum development; and resources.

The team or department offered multiple supports and opportunities for interaction for the participants at a group level. At the individual level, the school ecology also provided individualized mentoring.

Micro Level

While the distinction between the interactions that many of the participants experienced at the meso level and the micro level within the school as work place conceptual space is not dramatic, the engagement did become narrower at some point, and the participants felt that interactions were focused on their own teaching and learning. The physical features as well as the systemic organizational structure of each school provided

formal opportunities for participants to engage at the whole school or department/team level, as well as within individual one-on-one interactions.

Source of Mentoring

At the micro level, each participant had a group of people who were part of their individual teaching schedule, and who provided invaluable information and support every day. These consisted of veteran teachers, academic aides, special education aides, staff, and peers.

Nature of Mentoring

Physical Structure

In terms of the physical structure of the school building, all the novice teachers were housed near other faculty in their department/team. As mentioned earlier, either the building was specifically built to cluster the team/department together, or the school used its space effectively to group them in one hallway, which offered opportunities for daily interaction and thus support. Other physical features, such as a phone in their classroom, a computer at the participant's desk, and internet access created a professional work space for participants and provided support structures for them if needed. In addition, the participants had the physical presence of people in their classrooms, as a result of the organizational structure of the school.

Physical Presence of People

Each participant had either one or a number of the following faculty or staff with whom to work:

Academic Aides. Bella and Randy had academic aides in two of their classes, who were there to work on curriculum modifications for the whole class. The aides were not assigned to specific students, but rather functioned as a general teacher's aide. The

participants had to meet with their aides, plan lesson activities, develop classroom management strategies, and formulate student evaluation.

Special Education Aides. All the participants worked with a special education aide in one or more of their classes. In each case, the aide's responsibility was to work specifically with one or a group of students. There seemed to be uncertainty as to how to work with the aides as there were no clear guidelines and no role descriptions established by the school. Over time, and through discussions with other faculty in the lunchroom, workable situations evolved between the novice teachers and their special education aides. All of the participants mentioned how they valued their aide's input regarding particular students, as well as their knowledge of the school as a whole, other classroom management techniques, and their availability to provide an extra pair of hands when situations became challenging. Overall their presence was reassuring, as they had either been at the school, or had actually worked with these particular students previously. As such, they were able to provide information that was easily accessible for the teacher, and also to act as a consistent presence for the student. Brenda reported:

> Maureen is an ELL and a special education aide and has been hugely helpful to me. Because she is right here – every day – in my classroom, I could have an immediate conversation and she could help me know what to do. She has been here a long time and so she comes with information about these students, the administration and America's Choice.

Co-teaching. Brenda and Andy were paired with other faculty members to co-teach a class. They also had a common preparation period each day, including lunch break, and so they were able to plan lessons together, work on teaching strategies, and share available resources. Both Brenda and Andy, who co-taught with more experienced teachers, relayed time and time again, how these interactions, were the "best" possible situation for any novice teacher to be in.

Table 4. Excerpt from Brenda's 2nd shadow log

Date/Time	Who	Where	Topic
Period 1	Brenda and Mary (co-teacher)	Mary's classroom	Preparing for the lessons for the week

Script of interactions and overview of conversation: Their conversation covered the following topics :

The curriculum frameworks and how we have to meet them – Brenda has her copy of the frameworks that she used as a student teacher with some ideas from her methods classes. She shares those.

Mary shares how she has taught this lesson previously for the past two years. Explains what she feels works and what has not worked – but then states that she had to teach this lesson on her own before.

They spend about 10 minutes looking over all the various activities they both have and then use one of the long tables and put down the activities in piles.
Mary then uses the board and draws 5 columns to represent the 5 days of the week.
Firstly they decide what pages in the text book they can cover during the entire week.

Now – How far can they get by Thursday?

They spend another 15 minutes looking through the text book – decide how far they will get and then put the topic/heading of what they will cover each day on the board.

Mary and Brenda then select an activity for each day – and decide who will introduce the activity and who will do the 'mini lecture' portion of the class. Brenda decides she will do the 'mini lecture'– so that Mary can walk around the class and keep the students focused. Brenda talks about how she struggles with keeping them on track. Mary suggests that maybe they should break up the lecture portion into 10 minute segments and then have the students do some short activity in-between each.

Brenda is concerned about not being able to keep her classes under control. For about 5 minutes they start to talk about general classroom management strategies. Mary says that she finds it helpful to not always remain in the front of the classroom, and that perhaps Brenda should think about moving some of the groups in her classroom. Try to figure out who works best with who. Brenda mentions that when Mr H – the principal – pops in occasionally – the students quickly quiet down and she enjoys him coming into her class. Mary says – she prefers not to have him enter, as she wants to show the students that she is in control

Being able to plan a lesson with another teacher, implement that lesson, and finally reflect with a colleague, presented them with tremendous opportunity for

professional growth and development. Discussions included pacing of lessons, relevant activities, co-teaching roles, assessment of teaching and learning, setting class and individual expectations, seating arrangements, grouping of students, and sometimes simply troubleshooting issues that arose during the course of the day. Co-teaching also included discussions about long-term planning, such as assessment of students on a daily basis, on a unit basis, or on a semester basis. They also reported having held rich discussions about various levels of assessment, various types of assessment, and how to assess various learning styles. In Andy's case he co-taught two periods a day, and had a preparation period with one of his co-teachers which he found invaluable:

> … she is a great knowledge source for … everything really. She just feels like she knows the ins and outs of – like yesterday she gave me materials on doing other reading assessments. I am in a classroom with her for a full period each day and then we also share a prep time – so it is really prep time. Not only do we prepare what we are going to teach but we talk about "nitty gritty" student things and even abstract theories and concepts of education in general.

Systemic Organizational Structure

Each case within this study varied in terms of the systemic organizational structural supports offered at the micro level within the school. Two features that clearly emerged as being supportive within the school system were duties and preparation periods.

Duties. Within the school day, teachers are expected to spend at least one period doing duty. These duties vary considerably, but basically expect the teacher to be a monitor in various situations, such as, sitting outside bathrooms doing "potty duty" (ensuring that students sign in if they use the bathrooms during class time), monitoring hallways during class times, working on professional development teams for school improvement plans, and walking around the lunchroom during lunch times. All the

participants were paired with a veteran teacher during their duty period each day. Sometimes they were paired with teachers within their team, sometimes with other faculty in the building, and sometimes with their assigned mentor. The conversations during these times ranged from clarification of specific procedures and policies, addressing questions and concerns, venting and reflecting, to simply having someone to talk to about daily current events.

Preparation Periods. All of the participants were in situations where they shared their preparation periods with veteran teachers who taught the same subject as they did. Rudy, Bella, and Brenda also shared their preparation periods with other team members. In some cases, their classrooms were being used by other teachers, so they all congregated in the faculty lounge, which, as will be discussed later, became one of the prime sources of information and support for the participants.

The official induction program and the school ecology provided a tremendous amount of mentoring for the participants in this study. Within these two conceptual spaces, many informal connections were made, and developed into important supports at the macro, meso, and micro level. These informal networks were in most cases extensions of the connections made within the two first formal categories discussed, and in other cases extended from informal networks outside of their professional school lives.

Informal Networks

Most participants, however grateful they were for the official induction program and the school structure provided, spoke most enthusiastically about the unofficial, informal interactions that they had encountered on a daily basis during their first semester, which resulted in an informal network of support. While the induction program team and the school administration provided a lot of information and a formal support structure, in

those instances the information was delivered as a message or as policy and procedures, informal interactions provided the opportunity for the participants to seek clarification and a clearer understanding of information received from the previous two categories.

Macro Level

Mentoring provided at the macro level by the induction program team, the school and district administrators continued beyond their official capacity as members of the official induction program. Informal networks at the macro level, did not play as vital a role, but are worth mentioning as the participants' experience of these confirm current research, which states that the inclusion of all the various stakeholders within the district during official induction orientation, has long lasting benefits.

Source of Mentoring

All the participants reported connecting informally with many of the district and school administration members after meetings, at or after workshops, or at social gatherings. Principals, assistant principals, official mentors, and guidance faculty also became part of the integral informal networks of support.

Nature of Mentoring

Informal interactions with the school administration took place during the participants' free time, preparation periods, before or after school, in the lunchrooms, in the hallways, and sometimes at social gatherings. Because of the school and district administration's initial participation in the official induction program, and their continued presence (though not on a daily basis), the participants reported feeling a certain level of comfort knowing they could approach them at any time. In most instances the schools provided times and spaces with the specific intention to create opportunities for informal networking and spontaneous interaction. These spaces and times resulted in the

emergence of this third conceptual space which provided the participants with such vital support/mentoring. Brenda valued the informal interactions she had with her principal:

> I have had official meetings with the principal – several actually – but I regularly have informal conversations with him. Not daily – but at least several times a week – he is very accessible for any question or just to check in. Also at the beginning he used to just drop into my classroom for a few minutes and walk around and make eye contact with me.

Andy reported that after his first day, he found a note in his mail box from the assistant principal asking him if he had had a good start. "That sort of opened the door for me to be able to just say hi and pop in and tell her how my day went," he said. The type of information that was shared in these informal interactions tended to be of a general nature covering topics, such as, information on the school and students in general, quick clarification on school policies and procedures, school extra curricular activities, and basic check ins.

Meso Level

Source of Mentoring

At the meso level, department chairs and team leaders/coordinators, team members, other veteran teachers, and novice teachers, were part of the participants' daily lives and so formed an integral part of their informal mentoring support system.

Nature of Mentoring

Team Leaders or Department Chairs

While department chairs and team leaders were the people to whom the participants went for more official school policy and procedure type of information, participants often found that outside of formal meetings, these veteran teachers were another sounding board for their questions and a source of information. As Bella remarked:

> We catch each other in the hall a lot – like when we were out there during transition time. So a lot of times Karen (her team leader) will come across and tell me "oh this happened this morning with a student" because he would be in my class later that day – so just to kind of give me a heads up on how his day is going. Or sometimes just to remind me about a meeting, or ask me some other question.

Team Members

Beth, Andy, Bella, and Rudy were members of a team at their middle schools and each repeatedly commented on how the members of their teams were the first and most important source of information and support. During my 120 hours of shadowing the various participants, my observations of the informal interactions between the participants and their team supported their claims that their teams were their major support base. These interactions took place as they met in the hallways, before and after school, in each other's classrooms during prep or free time, in the lunchrooms and faculty lounges, at the copier, doing duties, on the way to meetings, in the library, via email, and at social gatherings. The discussions held mostly covered all the topics that had been covered by other official supports, but these discussions moved from the theoretical and general to a more practical and individual conversation where participants could "safely" ask specific questions and receive personalized suggestions and tips.

The following topics were frequently discussed in depth in the lunch/faculty rooms: school policies and procedures, providing further clarification, as well as questioning them and sharing ideas on how to implement them, subvert them, or simply get by "under the radar screen" if you vehemently disagreed with them; weekly administrative duties were also further clarified during these informal sessions; students in general with regard to their particular age group, what engages them, their behavior, their likes and dislikes; individual students and their learning, special needs, home circumstances, contacting parents, and approaches that work with particular families;

special education discussion concerning how to work with the aides allocated to each class, as well as sharing specific ideas on how to engage specific learners, apply the modifications and adaptations, specific activities that work with specific students; teaching strategies for all students, such as, games, hooking activities, use of time, pacing of lessons, and peculiarities, such as, "after lunch on Fridays" or "Monday mornings" are bad times to …; classroom management, a daily topic, included discipline tactics for students in general, and for specific students, seating arrangements, various ways to group students for different activities, setting and maintaining classroom rules, taking attendance, setting homework policy and checking it, teacher movement to manage behavior, and the use of the school disciplinary system as a final resort; venting – or a time to let off steam – was a topic that all participants felt was an important role that their "lunch time team" played. As Brenda described it, these lunch times were not intended to be "gripe sessions," but:

> They tend to end up that way. People always say "okay we are not going to talk business today" but we do almost every day. We talk about kids who are having problems, or we talk about a class that might have gone badly, and ask others how they experienced them that day. It is so helpful because well all teach them – and we all sit together – you know occasionally people don't come to lunch because they have something on – but for the most part everyone eats together. I mean it was after one of these lunch sessions that we decided to discuss creating a Friday homeroom session with the students in our team. We pull out approximately 10 kids into our primary rooms and we are going to discuss a variety of topics with our small groups. The first few weeks we just did introductions and who we are and so on so that we can get to know one another. And then at lunch last week someone mentioned that perhaps we should start to look into talking about cyber bullying and I am now working with the librarian on developing some ideas on this topic.

Rudy's statement captured the essence of how important the informal lunch groups were to all the participants:

> I think the most helpful for me has been my team. I know the meetings we have are essential, but I almost feel that we get more accomplished at lunch time. Also

> you know, knowing them so well, and especially Bari (a veteran teacher on the team) who always shares her lunch with us, has made me feel comfortable to kind of stop in and ask her for anything. We are all in the same area of the school actually I can just walk across the hall and ask her a question.

Micro Level

At the individual level, participants reported connecting with three other groups of people on whom they relied to provide general information, insight into their students, and support during their first semester of teaching. Due to the format of some of the presentations during the official induction program, many opportunities occurred for interactions between the participants and various other school personnel. These led to the development of sustained connections between the participants and various faculty and staff. During the first few weeks, many of the participants remarked how they sought out familiar faces during their school day, in order to answer their questions and provide some form of support. Many of these veteran teachers were also part of the district/school professional development team, and ran additional workshops and meetings during the school year

Source of Mentoring

Brenda, Andy, Bella, and Rudy all developed a friendship which extended beyond the boundaries of the mandated mentoring relationship. These mentors introduced them to their colleagues and other networks within the school system, all of which provided another source of mentoring for the participants. Joye, who regarded her mentor as an "extension of the administration", and primarily as an evaluative figure, formed a close relationship with another faculty member in her department who had taught in the same school system for 20 years, and had a wealth of information to share with her. Interactions with other faculty members, staff at the school, parents and community members also

proved to be invaluable to the participants. All the participants regarded their daily classroom interactions with the students as helpful in terms of learning the school culture, how they learned, what they valued, and how they should teach.

Nature of Mentoring

This informal mentoring occurred within the formal systems provided, such as the official induction program, the organization of school ecology, but more importantly, in between these structures.

Mentors

Mentors, who played a formal role in the participants learning to teach, were also an essential component of the novice teachers' "informal support system" that evolved during the semester. Mentors interacted with their novices simply to "check in" or ensure that they had information about specific school activities, such as parent/teacher conferences, and arrangements for teacher workdays, and also to network them with other faculty and staff for any needs they might have. Four of the novices felt comfortable with approaching their mentors at any time and about any topic, as described by Bella:

> We check in quite a lot you know. If I have a question I just pop over and ask, and it is really helpful as she is right here, I mean right next door to me and we have an inter-leading door.

Andy's mentor did not teach the same subject he did, but has continued to be a source of support as he described:

> It is helpful to know that there is someone out there – and that his role is to help me. I have swung by his room a couple of times with questions about – you know all sorts of things. I know where his room is and if he sees me in the hall way he will definitely ask me how it is going.

Andy, Rudy, and Brenda also remarked on how their informal interactions with their mentors led them to engage with their mentors' friends/colleagues, since they often

saw their mentors informally while they were in the company of their friends/colleagues. This helped them to network more broadly with other faculty in the school.

Other Faculty

In other instances, participants sought out other faculty to connect with, or faculty reached out to them, frequently in non-official settings, such as their classrooms, copy rooms, administration offices, hallways, and faculty lounges, before or after school. Joye, who taught at a secondary school and did not have a close relationship with her mentor, commented:

> I find people to talk to. I teach in a lot of classrooms, so I meet many people and I connect with them when I go to their classrooms. Then they know me and we can chat more when I see them elsewhere.

Brenda, who taught in a school district away from where she lived, found it was necessary to both reach out and be open to others approaching her:

> I had been told at one point by some other teachers in this district (before I accepted the job here) that they felt very isolated in their classrooms, but I have not really felt that way here. People are out of their rooms – people are friendly – people on the same floor – even if I don't have a regular team relationship with them – they will say "hey howzit going" or "how was school today" or "boy you look like you have been run over by a truck, is everything okay". You know I think people in this building seem to care about each other and so you get a feeling that you are not in it alone when things are not going well, and so that is a big help. So I guess it is just the general feeling of support you feel, even from people you are not necessarily connected to officially.

A source of unexpected information for Bella was an academic aide in her lunch group (from another team, who worked in a classroom with another science teacher who taught the same level that Bella did).

> I talk a lot with Randy, she is the academic aide on the other team, but she also has a science background. I bounce a lot of stuff off of her, and we kind of hang out – out of school too, and she is in my room a lot between lessons, or during my or her free periods and so it is really helpful to kind of bounce ideas off of her to see if they make sense. Also it is kind of helpful because she has been in Sylvia's room

> (my mentor) in the past, and as Sylvia has already taught the material I am teaching now, and she is familiar with it and how Sylvia taught it and what type of labs she did, so she shares these ideas with me.

School Staff

The school staff was considered an "underrated" support system for each participant. The school secretaries, librarians, janitors, nurses, truant officer, and in-house detention teacher were people who seemingly "ran" the school and were the prime source of information regarding the nuts and bolts of the participants' everyday lives. The participants connected with these personnel all over the school, but primarily in "their spaces," such as their offices, or general administration spaces, as opposed to the participants' classrooms. The information gleaned from this source was broad and varied from participant to participant and included: further information on particular students; access to school resources and supplies other than curricular ones; access to the library and its many resources; use of technology for personal and teaching purposes; knowledge of students' chronic illnesses; tips for teachers on how to be aware of substance and drug abuse, and the indications thereof; detention policy and use of the resource room; and the nuts and bolts of the running of the school from their perspective.

Joye, who as a secondary school teacher did not have a team group to bond with, found her primary support with the clerical and administrative staff and faculty at her school.

> I don't really get to talk to many people in my department … I talk to the guidance department a lot, they're my buddies. I used to talk to the assistant principals a lot about students until I realized that the administration is corrupt and it's best to avoid them. I have found out from the secretaries, who to trust and who not to trust. I also talk to Officer Dave – he's my buddy and keeps me filled in on what goes on around here. But most important of all, I live in Sue's office. She is the principal's secretary and she knows everything and is super friendly.

The department that Joye was in, only met on a monthly basis, she did not have a general 'meeting' space where the faculty of her department met, and she did not have her own classroom resulting in her spending her first six months trying to find a place to "belong'. As she did not feel comfortable asking her mentor, if she was unsure about anything, she would wander down to the main office and chat to the secretaries and in particular the principals' secretary during her preparation periods. She also spent a lot of time in the guidance offices and chatting to the truancy officer, about students who were challenging for her.

Table 5. Excerpt from Joye's self report log

Week October 16th – 20th 2006			
Date/Time	Who	Where	Topic
10/16 2nd Period	Principals Secretary	Her office	Where can I access the list of students that are absent today
2nd Period	Truancy Officer	Hall way near the Guidance office	Where is student X. Not at school, not reported absent. Not in my homeroom. Does he have any information on her as had been removed from my class last Friday
2nd Period	Guidance Counselor	Guidance Office	Continued discussion about student X with Guidance Counselor and Truancy Officer. Set up a meeting with student and Guidance Officer for tomorrow – to discuss future
4th Period	Guidance Counselor	My classroom	Came to my class to give me update on student and what I should expect in the last period and that they would be close by should anything occur.
6th Period	Mentor	My classroom	Came to visit my classroom – heard there might be issues with student X. I think she came to spy on me… not to help me!
10/17 Before school	Department Chair, Truancy Officer and Guidance Dept	In Guidance office	Discussion about how we will proceed with the student meeting to be held during 2nd period.
2nd Period	Department	In Guidance	Meeting with student. All there to

	Chair, Truancy Officer and Guidance Dept	office	facilitate the discussion we had. Very helpful. I am glad my mentor was not there.
10/18 Before school	Principals Secretary	Her office	Stopped by her office to tell her what happened and she told me to keep record of all of this and write everything down.

Parents and the Community

Participants found that the students, their parents, and the community wanted to connect with teachers and as such became important allies for them. Their interactions with parents often occurred initially at an official meeting, which then led to more informal interactions at school during extra curricular activities or sports events, or even outside the school, meeting them in and around town. Brenda, Andy, Bella, and Rudy reported attending various community activities and networking with various social agencies, which also allowed them to interact further with community members. These interactions were not school related as such, but provided them with the opportunity to get to know their students and parents as community members, and yet provided them with an "insider's" perspective of the students they taught, and their lives.

Students

Interactions with students occurred mostly during class time, before or after school, at school sponsored extra curricular or sport activities, and sometimes at social gatherings. At school, during class time these interactions were sometimes "social" in nature. Joye described how she started her class each week:

> We have weekend story time every Monday for five to ten minutes. I ask them what's going on and tell them a bit about myself. I'm real with them. I don't lie. I don't sugarcoat things, I just tell them the truth and they tell me the truth. Learning isn't all about academics you know. It's also about knowing who your students are so that you can find what makes them tick. If you know what makes them tick, you can reach them.

All the participants in the study reported designating specific times to interact with their students in a "non"-scholastic atmosphere in order to get to know them. Students also became a prime source of information during class time. Important information was gleaned by simply being aware of the students: their body language, their attention span, and gauging their interest level. Working with that information, the participants were able to: plan lessons that worked and engaged the students; decide on pacing and timing of activities within a lesson; discard activities that did not work; experiment with various disciplinary measures; gauge the students' level of ability and set realistic expectations; and listen to students, and use their knowledge to further develop their own teaching. Bella taught the same content to four different classes each day and found that she learned a lot about planning and implementing these plans, from simply observing her students during each different class.

> The students were really helpful to figure out how timing worked – also with some organizational stuff. Just to see how they learned best and things like that. How I could help them, like structuring the schedule for the day and so I kind of played off of – I mean I didn't ask them – but kind of played off how they were responding and things like that. By the time I had taught the lesson for the third time that day I had changed some things.

Beyond the School Walls

All the participants reported numerous support people or systems outside of their school system that were integral to their surviving the first semester. At the time of the study, Bella and Andy were taking graduate courses and connected on a weekly basis with their classmates and professors. The classes for which they were enrolled were closely related to their teaching and so they were able to enhance their subject specific knowledge. More importantly, they reported that they had an outside cadre of teaching colleagues off whom they could bounce ideas and with whom they could share their

frustrations and challenges. They were able to gather ideas for worksheets and projects, assessment tools, and many other teaching strategies from their professors and their colleagues. Brenda, Bella, and Rudy also reported maintaining contact with their cooperating teachers or supervisors from their teacher education programs. They connected casually if they saw them at professional meetings, or simply at social gatherings, and sought information that was curricular based or simply good teaching techniques in general.

Bella had a summer job within the field of the subject she taught, and she found the staff and information provided by this organization invaluable as she tried to find interesting and enriching activities for her students. All the participants reported talking to friends and family members to "bounce ideas around" or simply to try and gain some other perspective on what they were doing and thinking each day. The Internet has also become an important tool for teachers, as all the participants reported searching for ideas and resources at various times.

Self Reflection

All the participants used self-reflection as a learning tool throughout their first semester. Sometimes "reflection-in-action" occurred during their teaching as they observed student's reactions or as the lesson progressed. "You have to think on your feet," Joye commented after a day of shadowing. "Did you notice that I changed the way I taught that first section in the third class? I just knew as I started teaching D-block that it was not going to work, so I flipped the two sections around." Reflection-in-action played a large role in their learning how to teach differently each day. Only Rudy, who attended The Teacher's Loft, had an "official space" where he conducted these types of reflections. All the other participants used their informal friendships or simply spent time on their

own reflecting on their teaching and what worked and what they needed to change. They reported using their school prep time, time in the car driving home from work, evening prep time, family time, social gatherings, and every other waking moment to reflect on their teaching.

This research highlighted the importance of mentoring that occurred through multiple sources and at various levels. The two formal structures within which mentoring occurred; Formal Induction Programs and School Ecology, were essential, as support systems, for the participants.

The districts' formal induction programs for new teachers were mandated by the state, but the implementation of the various programs was not consistent, and very rarely met the needs of the individual participants. However, formal induction programs were considered essential, not only as an orientation and welcome to the school, but more importantly as a means to bring all the stakeholders together. This resulted in the development of an open climate where novices felt comfortable to engage with a variety of people throughout the school, and throughout the school year, within the formal climate of school, and within informal situations.

The school ecology, in terms of its physical structure, and the physical presence of people within the "team model" proved to be a consistent source of support. The use of space within the building was specifically conducive for consistent engagement between the participants and other faculty and staff. Additionally, the organization of day-to-day running of the school, with creative scheduling, mandated meetings, and team teaching opportunities created multiple opportunities for the participants to be supported through engagement with other faculty within a formal situation.

The previously mentioned formal structures, while considered essential support systems within their own right, provided a third unexpected space within mentoring occurred. This space was a spin off of interactions that occurred and relationships developed within the former spaces. The informal networks that the participants were able to engage in filled the gaps left between the formal induction program and the functioning of the school. Within this final conceptual space, interactions mostly occurred individually between the participants and various member of the district/school community, who made personal decisions to engage with the participants outside of the formal structure of the school, and thus provide a different level of support and mentoring.

CHAPTER 5

DISCUSSION

In the mid-1980s induction programs and mentoring as an element of induction became popular tools used to stem the tide of teacher attrition in the US (AFT, 2001; NCTAF, 2003). Since their inception, induction programs have varied considerably, both from state to state and from district to district, they have often been unfunded, unregulated, not evaluated, and more importantly, have not had the desired impact on teacher attrition (AFT, 2001; Ingersoll & Smith, 2004; NCES, 2000). The majority of the existing induction programs and/or mentoring programs do not provide sufficient support for novice teachers, as stand-alone processes. Furthermore, mentoring, currently conceived of as an essential element of induction, is sometimes the only support provided to novice teachers during their first year of teaching (Ingersoll & Smith, 2004).

This research suggests that mentoring should be conceptualized (see conceptual framework p. 111) as a much broader process, which includes interactions that occur within three related conceptual spaces, namely, the formal induction program, school ecology, and the informal networks that emerge within and between these two formal learning spaces. Within each conceptual space, mentoring occurs at three levels, namely, the macro or institutional level, the meso or team/department level, and the micro or individual level. The conceptual framework represents the mosaic of mentoring that is produced from the interconnected interactions that take place within these conceptual spaces and at the three levels. It is critical to understand the power of this mosaic of mentoring, in order for districts and schools to supplement current induction programming that aims to prepare and retain effective teachers.

The first two conceptual spaces of this mosaic occur as a product of formal induction programs, and school ecology. A third conceptual space, that supports novice teachers, emerges from the gaps between the formal structures of the official induction program and the school ecology. It is within this third conceptual space that informal interactions occur, where individual relationships develop spontaneously which provide further support for the novice teachers. The notion of a mosaic not only illustrates an image of how these formal spaces connect with each other, but more importantly, it describes how they are connected through the informal interactions that emerge from within these formal structures.

Findings

This research has confirmed the findings in most of the literature reviewed in Chapter 2, with regard to the types and formats of effective official induction programs and mentoring processes. The results of this study add three interesting perspectives on mentoring that need to be considered, specifically as they go beyond simply providing formal induction programs, or one-on-one mentors, as a means of retaining teachers.

Firstly, recognizing that novice teachers are adult learners is critical to the development and implementation of induction programs. Program developers should consider the principles of adult learning theory as they relate to novice teachers, such as, who the adult learner is, how adults learn, and how teachers of adults should facilitate learning opportunities (Caffarella, 1993; Imel, 1998; Knowles, 1974).

Secondly, it is essential to acknowledge and explore the role and function of school ecology as a source of support for novice teachers (Huling & Resta, 2008). Administrators, therefore, need to think more strategically about how the physical space,

the physical presence of people, and the organizational structure of the school can be structured in order to provide further support for novice teachers as a source of mentoring.

Lastly, the concept of informal networks, as a conceptual space within which mentoring occurs, is more powerful than both the formal induction programs and the ecology of schools. Utilizing the formal structures of official induction programs and school ecology to provide space for informal networking, broadens the notion of mentoring, and also provides a more holistic and integrated dimension of mentoring that significantly enhances the formal induction of novice teachers. Conversely, if these informal spaces and networks are not strategically utilized, they could negate the intended impact of the official and formal supports provided by induction programs and weaken the opportunities for learning that arise within the functioning of schools as effective workplaces.

Adult Learning Theory

Induction programs and professional development conducted within schools tend to model consistent pedagogical models when they should rather be grounded in the principles of adult learning theories as adult learning is different from pre-adult learning (Imel, 1998; Mezirow, 1991). The underlying theories should include consideration of assumptions of who the adult learner is, how adults learn, and how teachers of adults should facilitate learning opportunities (Knowles, 1974; Mezirow, 1985). Furthermore, it is important to consider adult learning theory when designing induction programs, especially when considering the focus and goals, and the structure and format of induction programs.

The Adult Learner

The three adult learning theories, namely, andragogy (Knowles, 1974; Merriam, 2001), self-directed learning (Houle, 1961 in Merriam, 2001; Tough, 1961 in Merriam, 1993) and transformational learning (Baumgartner, 2001; Mezirow, 1991), that form the theoretical framework for this research, all incorporate detailed descriptions of who adults are, as learners. This research has suggested that these theories should be taken into account when planning induction programs for novice teachers.

Adults, considered independent and autonomous beings with a well defined self concept, are highly motivated and ready to start learning from day one (Knowles, 1974). They enter the learning relationship with vast prior knowledge (Knowles, 1974), and are capable of directing their own learning (Merriam, 2001). Induction programs and professional development should therefore be tailored to connect with these novice teachers, at their level, acknowledging their prior knowledge, and providing opportunities to further and deepen their prior knowledge. Furthermore, adult learners strive to understand themselves and connect with others (Mezirow, 1997), are more likely to personalize their learning, and thus learning should be connected to, and integrated into, their daily lives and the people with whom they interact (Zepke & Leach, 2002). Affirming these elements of adult learning will enable novice teachers to make sense and have meaning as they learn to teach. Induction programs must focus on enabling novice teachers to meet their needs, and to set goals that are aligned to their own personal professional development.

Official Induction Programs

Official induction programs emerged from the analysis of these data, as a conceptual space within which mentoring interactions occurred, and which in turn

provided support for novice teachers as they learned to teach. Various facets of the official induction programs emerged as effective strategies to provide mentoring for novice teachers and facilitate the creation of informal networks.

Initial and Sustained Professional Development

Official induction programs are effective only if they are connected to the broader professional development programs of the entire district and school (Breaux & Wong, 2003; Wong, 2002, 2005). An official district- and school-wide orientation, conducted prior to the school year, is necessary as it provides a broad, yet generic, overview, despite novice teachers feeling somewhat overwhelmed by all the information provided to them at this time (Bell & Miraglia, 2003; Wilkinson, 1997). In order to tailor the support to meet each novice teacher's needs, and to provide a continual comprehensive source of support, this study has shown that it is essential that induction, as a part of the district/school professional development program, be sustained throughout the first few years of teaching (Darling-Hammond & Sykes, 2003; RNT, 1999). This will provide a level of consistent, professional support for the novice teachers as they transition seamlessly from being a student teacher, to becoming a teacher.

Participants in Induction Programs

All the stakeholders within a school district need to be part of the official induction program (Breaux & Wong, 2003; Wong & Asquith, 2002).

Administrators

By including the superintendent, principal, guidance department, department chairs, other staff and faculty, in the formal official induction program all novice teachers are introduced to all the stakeholders within the school district from the outset. Furthermore, the participation of all the stakeholders indicates their support for the novice

teachers (Eggen, 2002; NCES, 1999; Wong 2002). This study has shown that their inclusion within the initial orientation provided the various stakeholders with opportunities to connect with the novice teachers, in a formal yet friendly atmosphere. This proved effective in breaking down the traditional barriers between novice teachers and the seemingly powerful, seasoned administrators. Because of these interactions, many participants commented that they felt comfortable with approaching and talking informally to any number of administrators during their first semester.

Veteran Teachers

Veteran teachers benefited from being included in the induction programs, either at the initial orientation phase, or throughout the school year (Huling & Resta, 2001). Being involved as presenters or mentors during initial orientation sessions and professional development workshops, provided them with opportunities to share their knowledge within a formal structure and to establish their willingness to provide mentorship to novice teachers. This interaction acknowledged their expertise and, furthermore, allowed them professional development opportunities where they were able to further develop their own practice (Ganser, 1997), and reflect on their current practice. Reflective practice in mentoring can also provide an opportunity for renewal and regeneration necessary for all adults (Daloz, 1999; Freiberg, Zbikowski & Ganser, 1997).

Mentors

Mentoring, as a stand-alone strategy, has not proved to be effective in retaining teachers (in light of the increased attrition rate since mentoring was introduced in the mid 1980s). However, this study found that mentors who are assigned to novice teachers prior to the school year, within the same subject area (Smith & Ingersoll, 2004), and teaching within close proximity of their mentee (Johnson & Kardos, 2004), proved to be extremely

effective in providing support as "local guides," "educational companions" and "agents of change" (Feiman-Nemser & Parker, 1993). This research further found that pairing mentors and novice teachers within the same subject area provided opportunities for rich and comprehensive discussions between the two, about topics, such as curriculum development, specific curriculum teaching resources, ideas for teaching activities, assessment, grading, and rubrics. Mentors also need to be trained, and provided with release time, in order to observe, converse, and engage formally and informally with their mentees (Alliance for Excellent Education, 2004; Ballantyne & Hansford, 1995; Gratch, 1998; Wang & Odell, 2002).

The Focus and Goals

Most induction programs focus on the quick transition of novice teachers into fully-fledged teachers. Initial "reality shock" (Veenman, 1984) is experienced by most novice teachers as they enter teaching, and as such, good induction programs should be planned not only to focus on providing a generic induction agenda, but more importantly, should provide support and mentoring that meets the novice teachers' needs at their various stages of development (Feiman-Nemser, 1996; Fisher, 1973). This research has suggested that a learner-centered focus or approach be followed, as adults learn and develop knowledge from their own experiences. As such they need to be able to spend time in the classroom, and have a support system that allows them opportunities to engage with others and/or to reflect on their practice, and learn from their practice at an individualized pace.

The Structure and Format

Effective induction programs and professional development should provide opportunities for input from all members of the district or school community, including

the novice teacher. This research found that novice teachers should not only be provided with opportunities to forge networks with other veteran and novice teachers, but they should also be encouraged to participate in the development of their own induction programs. Districts and schools should create a collegial environment promoting team-work, peer collaboration, and the creation of learning networks. Within this structure and format, it is vital to acknowledge the prior knowledge and experience that novice teachers bring to the learning engagement, and to create opportunities for them to validate and share their knowledge and experience, thus empowering them as they learn to teach.

School Ecology

Systemic utilization of the day-to-day organization of the school, along with school site characteristics, such as, how the building and space within the building were strategically utilized, and working conditions within schools, provide a network of support for novice teachers (Dunne, Villani, Guckenburg, & Breslow, 2007; Johnson & Kardos, 2004; Smith & Ingersoll, 2004). Research indicates that the professional culture of a school, which specifically supports new teachers, helps to retain teachers in those schools (Johnson & Birkeland, 2002).

Physical/Geography

At the macro level of analysis, participants benefited from the open and inviting atmosphere within the district, in particular when district administrators' offices were physically close to the school, and when district administrators made the effort to be physically present within the school buildings regularly. At the meso level, the physical structure of the school building, and the strategic use of physical space within the building, played a vital role in supporting novice teachers. More specifically, this provided natural "built-in" supports for novice teachers as they entered the profession.

The physical placement of teachers in a team or department, within the same area of a school building, added to the level and quality of interaction among all teachers. Belonging to a community of teachers with efficient structuring of the school space, emerged as one of the essential elements of support experienced by the participants, and a critical element of the mentoring mosaic.

Physical Presence

District and School Administrators

The physical layout of a building can be somewhat confining, especially if the building was not specifically designed to facilitate easy access to district central office buildings, or school administration offices. In some instances this study found that the administrators needed to be proactive in creating ways to be physically present. Administrators and principals who played an active role in various small school meetings, popped into teachers' classrooms informally, and were often in the hallways, lunchrooms or faculty lounges, were considered by novice teachers to be more accessible and approachable, and an element of their mentoring and network of supports. In three instances, the principals were also involved in all IEP meetings and this provided an intimate setting for the novice teacher to be able to meet and engage with administrators around issues specific to teaching and learning, which proved extremely useful in all five cases.

Faculty and Staff

The physical use of space within a building, which placed team or department faculty and staff within close proximity of each other, facilitated the constant professional and interpersonal interactions, contributed to the development of an external network of teachers, which novices expressed as extremely helpful. However, this study also found

that simply placing people in spaces together does not necessarily result in dynamic interactions and learning. A combination of the physical layout of the building, the deliberate use of space within the building, and the systemic organization of the school as a learning environment, provided dynamic opportunities for engagement among faculty, and thus opportunities for mentoring and support.

Systemic Organization of the School

The systemic organization of the school offered multiple opportunities for the participants to engage with other faculty and staff at the macro, meso, and micro levels. At the macro level, school-wide strategies, such as creative scheduling, small schools model, mandated meetings, and the use of technology, provided a formal structure with built-in opportunities for interactions among participants and other faculty and staff. At the meso level, the structure and functioning of the team/department, with its daily team meetings, common lunch times, and team/department faculty room, provided time for teachers to work and reflect together (Joyce and Calhoun, 1996), and proved most effective in providing a means of formal and informal support for the novice teachers. At the meso level, these formal, mandated team meetings, which were held regularly, and which directly related to the students within that team, focused the discussions so that the novice teachers could systematically process their prior learning about teaching, the information provided at the district and induction programs, and other pertinent information. At the micro level, participants were individually teamed with other faculty and staff to co-teach, teach with academic aides, teach and work with special education aides, share common planning time with other faculty, and share common duties with veteran teachers in their subject area. All of these systemic organizational strategies provided further opportunities for engagement and mentoring.

Informal Networks

This research has provided evidence that a dynamic mosaic of formal and informal mentoring is critical to support novice teachers as they enter teaching. Specifically, novice teachers in this study, despite being part of a formal induction and mentoring program, perceived the "unofficial" interactions that they had on a daily basis, to be critical to surviving their first semester. These informal interactions are a direct product of the mentoring and interactions that occur within the two formal conceptual learning spaces, namely, the official induction program, and the school ecology.

Official Induction Program

District and school initial orientation and sustained induction programs provided generic support and information for the participants. These programs were also structured to allow space and time for individual engagement within the programs, and as a result of connections made within those programs, provided opportunities for novice teachers to connect with people on an informal basis. Informal interactions within the formal induction program allowed the novice teachers to seek clarification or a clearer understanding of topics discussed, such as school policies and procedures, attendance policy, and grading policies, within a protected and safe space. This research found that by bringing all the stakeholders within a school district together under the umbrella of induction or new teacher orientation, novice teachers were introduced to a variety of people with whom they developed informal relationships beyond these programs, at all levels within the district and school, and who then provided informal support and mentoring.

Schools Ecology

The conceptual framework suggests that informal networks occurred within the school ecology at all three levels. While the interactions at the macro and meso level were less frequent, the strategic structuring of the school building and systemic organization of school's functioning facilitated the development of informal networks at all three levels.

Informal Interactions at the Macro and Meso Level

Schools that strategically plan the utilization of the building and the space within the building, as well as the systemic organization of the school within those buildings, created multiple opportunities for formal and informal interactions to occur among the various members of the school community. These informal interactions evolved from within the formal organization of the school, but more importantly they occurred between and within these formal structures. For instance, the formal structure of the team/department created "built-in" conditions where faculty could be together, at lunches, in faculty rooms, in the hallways, and at social gatherings, and this allowed for individuals to connect at a more personalized level. These interactions provided informal opportunities for the novice teachers to share their ideas, bounce ideas back and forth, and feel comfortable about sharing their concerns without fear of repercussion or a sense of failure.

Informal Interactions at the Micro Level

Informal networks formed with other school community members were most evident at the micro level of engagement. Informal interactions with members of the school community, such as mentors, other veteran faculty, peers, and school staff members, beyond the formal meetings or teaching situations, became a vital source of support for the participants. Providing opportunities for novice teachers and the other

members of the school community to engage informally on a daily basis brought a level of comfort to the professional learning relationship, which in turn allowed for more intense, personalized conversations and opportunities for mentoring. The study also revealed that informal interactions with community members, parents, students, college faculty, and outside school agencies all provided another level of support for the novice teachers.

Final Thoughts

Induction into the teaching profession, whether planned or not, does occur in both positive and negative forms. Mentoring of novice teachers occurs within three conceptual spaces, namely, the formal induction program, the ecology of the school, and within the informal networks that teachers create. Districts and schools can plan strategically to use their formal programs and the organization of their schools, to create supportive environments for novice teachers as they enter the profession, and more importantly, to create opportunities for informal networks to occur spontaneously within, and as a result of, these two formal structures.

Induction and mentoring have become the most popular tools used to stop attrition since the mid 1980s, but clearly they have not worked, as the US continues to face teacher shortages. The strategic structuring of schools, their systemic organization, and the support they provide their novice teachers does have an impact on teacher retention and student achievement (Huling & Resta, 2008). These formal spaces within which mentoring occurred, and the manner in which they were planned and/or structured, provided the powerful third space within which mentoring occurs. Schools and informal individualized interactions between novice teachers and other members of the school community, are untapped sources of support that should be considered as viable tools for

mentoring, especially considering the current teacher attrition rates, and district and school budgetary shortfalls.

This research explored the range of interactions that novice teachers encountered during their first six months of teaching and which related directly or indirectly to induction programs and school mentoring programs. Novice teachers reported needing this broad range of interactions in order to find supports that would enable them to learn to teach. However, there is no evidence that arises from this research that these interactions actually improved their teaching. Further research is needed in order to explore the links between induction, mentoring, and supportive work environments, and, the impact of these on effective teaching. Further research is also needed in order to explore the impact of the mentoring mosaic on rates of retention, and ultimately also on student achievement.

The research also focused on adult learning theory as a framework for understanding the adult learner, the process of learning, and the strategy for how to format and structure adult learning programs for novice teachers. Although there is sufficient evidence to support this assertion, further research should be conducted on the design and development of induction programs, and whether the format and specific activities that are grounded in adult learning theory, are more effective in terms of impacting effective teaching and teacher retention.

School culture (Johnson & Birkeland, 2003), and school ecology (Huling and Resta, 2008) is an untapped source of support for teachers, especially novice teachers. While there is some research focused on this field, it is worth exploring how the specific use of building space and the systemic organization of the school, can be effectively utilized as an organic support system, and as a tool to retain teachers.

APPENDIX A

DEMOGRAPHICS OF THE DISTRICTS AND SPECIFIC SCHOOLS

http://profiles.doe.mass.edu/
November 6, 2007

District Demographics	Urban District	Suburban District	Rural District	State of MA
Number of schools	13	4	1	
Students				
Number of students	6,256	2,270	747	73,176
Hispanic	74.6 %	2.2%	1.9%	13.3%
White	20.9%	86.3%	90.4%	71.5%
African American	3.2 %	2.0%	1.3%	8.2%
English not first language	51.3 %	1.3%	2.1%	14.9%
Low Income	76.8 %	16.1%	42.2%	28.9%
Special Education	25.4 %	15.8 %	17.0%	16.9 %
Attendance Rate	91 %	93.7%	93.7%	94.5%
Graduation Rate	49.4 %	88%	65.7%	79.9%
Teachers				
Number of teachers	640	72	61	73,176
Teachers Licensed in Teaching Assignment	90.7 %	91.5%	89.4%	95.4 %
Core Academic Teachers Identified as Highly Qualified	88.2 %	92.7%	93.4%	95.1 %
Specific School Demographics	Urban High School	Urban Middle School	Suburban Middle School	Rural Middle School
Students				
Grades	9–12	6–8	5–8	7–12
Number of students	2071	272		747
Hispanic	57.2%	77.6%	1.3%	1.9%
White	37.6%	16.9%	89.9	90.4%
African American	4.4%	4.4%	2.2%	1.3%
First language not English	48.5	50.4%	1.1%	2.1%
Low Income	54%	86.8	16.6%	42.2
Special Education	10.5%	29.0%	14.7 %	17.0%
Attendance Rate	88.6%	94.5%	95.4	93.7
Teachers				
Number of teachers	1241	38	52	61
Teachers Licensed in Teaching Assignment	94.6%	86.8%	91.1%	89.4%
Core Academic Teachers Identified as Highly Qualified	94.7%	82.5%	89.8%	93.4%
Student teacher ratio	12.4 to 1	7.2 to 1	13.8 to 1	12.3 to 1

APPENDIX B

LETTER TO SUPERINTENDENTS

Tel: 413 323 8877
Email: bbell@mtholyoke.edu

96 Amherst Road
Belchertown, MA 01007
Date XXX

The Superintendent
Address XXX

Dear XXX

My Doctoral Dissertation Data Collection

As per our meeting last week, I am hereby officially applying for permission to work with teachers in your school district.

I am a doctoral student at the University of Massachusetts, Amherst, working under the direction of Professor Linda Griffin, and I am setting up my doctoral research and would like to include (school's name) novice teachers in my study. The purpose of my study is to investigate the mosaic of interactions that provide mentoring for novice teachers as they negotiate their first semester of teaching. The specific focus is to capture novice teachers' perceptions on how both the formal induction and mentoring programs, and the informal mentoring interactions that they experience, impact their learning to teach.

Currently in the US we are facing a teacher shortage due to current high attrition rates. Recent research indicates that within one year of teaching, at least 9.5% of all new teachers leave the teaching force, and within three years, 33% have left and within five years, we lose up to 49% of our new teachers.

I believe that my study will add to the current research on induction and mentoring of novice teachers in two ways. Firstly, I believe that we must give voice to the novice teacher in this dialogue that is currently dominated by reports written by either researchers or program directors. During these first few weeks/months, novices are known to experience "reality shock" as they start their new careers, and move from being students of teaching to teachers of students. Capturing their thoughts, ideas and interactions at this early stage of their careers will help us to understand the complexity of this time in their professional development where they are naturally seeking or are offered mentoring. Secondly, I believe that inherent in all schools are informal mentoring networks that occur spontaneously, as veteran teachers and administrators interact with each other. It is critical to understand these networks – where they occur, how they occur and how they impact the novice as s/he learns to teach. Finally, I believe that this research will not only contribute to our collective understanding of the impact of mentoring programs, but I hope that it will also contribute to a process of informing future mentoring programs and thereby reverse the current negative attrition trends in education.

Should your Principals and Mentoring Coordinators agree to my project, I propose that my data collection process will include the following:

Prior to the start of the school year

Attend any district-wide orientation for novice teachers
Attend any district or school induction activities for novice teachers
Invite novice teachers to participate in my study, via a written letter

First semester of the school year

Shadow each novice teacher for three full days – unobtrusively
Attend one mentor/novice meeting/ or have novice record the meeting
Request the participants to keep a log of all interactions specifically focusing on their learning to teach for one full week

December, 2006

Final Interview with each novice teacher at a mutually agreeable time

I am excited to finally start this final phase of my doctoral work and to once again work directly with teachers in your schools. I look forward to hearing from you in order to connect with your Mentoring Coordinator and Principals. Please email me at bbell@mtholyoke.edu to connect us. I will then follow this up with a similar note outlining my proposal and the letter of informed consent to be handed to any interested novice teachers.

Thanking you in anticipation,

Beverley J. Bell
Doctoral Candidate
University of Massachusetts, Amherst

APPENDIX C

LETTER TO PRINCIPALS

Tel: 413 323 8877
Email: bbell@mtholyoke.edu

96 Amherst Road
Belchertown, MA 01007
Date XXX

The Principal
Address XXX

Dear XXX

My Doctoral Dissertation Data Collection

I recently spoke to XXX, the Superintendent at XXX in order to obtain permission to conduct research in the schools in his/her district. I am therefore writing to ask for your permission to work with some of the novice teachers in your school

I am a doctoral student at the University of Massachusetts, Amherst, working under the direction of Professor Linda Griffin, and I am setting up my doctoral research and would like to include XXX novice teachers in my study. The purpose of my study is to investigate the mosaic of interactions that provide mentoring for novice teachers as they negotiate their first semester of teaching. The specific focus is to capture novice teachers' perceptions on how both the formal induction and mentoring programs, and the informal mentoring interactions that they experience, impact their learning to teach.

Currently in the US we are facing a teacher shortage due to current high attrition rates. Recent research indicates that within one year of teaching, at least 9.5% of all new teachers leave the teaching force, and within three years, 33% have left and within five years, we lose up to 49% of our new teachers.

I believe that my study will add to the current research on induction and mentoring of novice teachers in two ways. Firstly, I believe that we must give voice to the novice teacher in this dialogue that is currently dominated by reports written by either researchers or program directors. During these first few weeks/months, novices are known to experience "reality shock" as they start their new careers, and move from being students of teaching to teachers of students. Capturing their thoughts, ideas and interactions at this early stage of their careers will help us to understand the complexity of this time in their professional development where they are naturally seeking or are offered mentoring. Secondly, I believe that inherent in all schools are informal mentoring networks that occur spontaneously, as veteran teachers and administrators interact with each other. It is critical to understand these networks – where they occur, how they occur and how they impact the novice as s/he learns to teach. Finally, I believe that this research will not only contribute to our collective understanding of the impact of mentoring programs, but I hope that it will also contribute to a process of informing future mentoring programs and thereby reverse the current negative attrition trends in education.

I propose that my data collection process will include the following:

Prior to the start of the school year

Attend any district-wide orientation for novice teachers
Attend any district or school induction activities for novice teachers
Invite novice teachers to participate in my study, via a written letter

First semester of the school year

Shadow each novice teacher for three full days – unobtrusively
Attend one mentor/novice meeting or have novice record the meeting
Request the participants to keep a log of all interactions specifically focusing on their learning to teach for one full week

December, 2006

Final Interview with each novice teacher at a mutually agreeable time

I am excited to finally start this final phase of my doctoral work and hope that you will allow me to work with teachers in your schools. I look forward to hearing from you in order to connect with whoever coordinates your new teacher orientation or mentoring. Please email me at bbell@mtholyoke.edu or call me at 413 323 8877 should you require any more information.

Thanking you in anticipation,

Beverley J. Bell
Doctoral Candidate
University of Massachusetts, Amherst

APPENDIX D

LETTER TO PARTICPANTS

Tel: 413 323 8877
Email: bbell@mtholyoke.edu

96 Amherst Road
Belchertown, MA 01007
Date XXX

Mr./ Ms. XXX
School's address XXX

Dear XXX

My Doctoral Dissertation Data Collection

I am a doctoral student at the University of Massachusetts, Amherst, working under the direction of Professor Linda Griffin, and I am setting up my doctoral research and would like to include (school's name) novice teachers in my study. The purpose of my study is to investigate the mosaic of interactions that provide mentoring for novice teachers as they negotiate their first semester of teaching. The specific focus is to capture novice teachers' perceptions on how both the formal induction and mentoring programs, and the informal mentoring interactions that they experience, impact their learning to teach.

I recently spoke to XXX (superintendent) and XXX (principal) in order to obtain permission to conduct research at the schools in the XXX school district. They have agreed that this research could be done, on condition that I contact each teacher directly. I am therefore writing to ask if you would like to take part in my research this coming semester.

I believe that my study will add to the current research on induction and mentoring of novice teachers in two ways. Firstly, I believe that we must give voice to the novice teacher in this dialogue that is currently dominated by reports written by either researchers or program directors. During these first few weeks/months novices are known to experience "reality shock" as they start their new careers, and move from being students of teaching to teachers of students. Capturing their thoughts, ideas and interactions at this early stage of their careers will help us to understand the complexity of this time in their professional development where they are naturally seeking or are offered mentoring.

Secondly, I believe that inherent in all schools are informal mentoring networks that occur spontaneously, as veteran teachers and administrators interact with each other. It is critical to understand these networks - where they occur, how they occur and how they impact the novice as they learn to teach. Finally, I believe that this research will not only contribute to our collective understanding of the impact of mentoring programs, but I hope that it will also contribute to a process of informing future mentoring programs and thereby reverse the current negative attrition trends in education.

I propose that my data collection process will include the following:

Prior to the start of the school year

Attend any district-wide orientation for novice teachers
Attend any district or school induction activities for novice teachers

First semester of the school year

Shadow each novice teacher for three full days – unobtrusively
Attend one mentor/novice meeting or have novice record the meeting
Request the participants to keep a log of all interactions specifically focusing on their learning to teach for one full week

December, 2006

Final interview with each novice teacher at a time that suits them

All of your interviews and responses will remain anonymous. This includes the name of the school district, participants and any other faculty observed. Information from this study is not part of any school evaluation, and as such no individual responses will be shared with the administration. There is no health or psychological risk involved. The interviews and written responses all deal with analyzing your opinions and perceptions.

As this study is for the purposes of doctoral course work, results from this small study may be published, or included in presentations (no original names will be included). Participation is entirely voluntary and you are free to withdraw from the study at anytime without prejudice. You will have the right to review materials of the study pertaining to your personal responses and a summary of the findings will be made available to you upon request.

I would be willing to explore the possibility of presenting our findings at a local annual research conference with you, should you be interested.

I look forward to hearing from you if you are interested in working with me. Please email me at bbell@mtholyoke.edu or call me at 413 323 8877 should you require any further information.

Thanking you in anticipation,

Beverley J. Bell
Doctoral Candidate
University of Massachusetts, Amherst

APPENDIX E

INFORMED CONSENT

Novice Teachers Experience a Mosaic of Mentoring as They Learn to Teach
Bev Bell: Researcher

To participate in this study please sign below on the two copies of this consent form provided, retain one copy for your files, and return the other to me. Your signature indicates that you have read and understood the information provided in this form, your willingness to participate, and your understanding that you may withdraw at anytime. If you have any questions about this research project please feel free to contact me at home or by email: 413 323 8877 or bbell@mtholyoke.edu

If chosen, I am willing to participate in this study.

I will be shadowed for three full school days by the researcher.
I will be interviewed by the researcher.
I am willing to keep a "self-report log" for one week noting interactions between myself and others as I learn to teach.
The interview will be tape recorded to facilitate analysis of the data.
I am willing to tape record one of my mentor/mentee meetings.
No identifying features such as names of the school district, school, the participant, or other teachers and students will be used.
I am free to participate or not to participate without prejudice.
I may withdraw from part or all of this study at any time.
I have the right to review material prior to the final oral exam or other publications.
I understand that the results from this study will be included in Beverley Bell's doctoral dissertation and may also be included in manuscripts submitted to professional journals for publication.
Because of the small number of participants, only six, I understand that there is some risk that I may be identified as a participant in this study.

Participant's Signature _____ Date: _____

Researcher's Signature _____ Date: _____

Contact Information

First Name: .....

Last Name: .....

Phone Number: ( ) .....
Email: .....

APPENDIX F

DATA COLLETION SHEET/SELF REPORT LOG

Participant: ..... Date: .....

Who – Person	Where – Place and When – Time	What – Topic	Abbreviation

APPENDIX G

DATA SORTING PLAN

The 'where' and 'when' Where does the interaction take place and during which particular time frame is	The **'who'** (Who provides the information/mentoring to the novice teachers)										
	Phase 1 District/School Induction Program	Super-intendent	Principal	Induction Program Coordinator	Mentor	Dept Chair	Veteran Teacher within Content Area	Veteran Teacher at Large	Peer Novice Teaehers	Students	Other
	Official Meeting/Workshop/ Presentation										
	Initial Mentor Meeting										
	Informal Conversations										
	Artifacts/Documents										
	Other										

Phase 2

The 'where' and 'when' Where does the interaction take place and during which particular time frame is information shared	First month of teaching	Super-intendent	Principal Assistant Principal	Induction Program Coordinator	Mentor	Dept Chair	Veteran Teacher within Content Area	Veteran Teacher at Large	Peer Novice Teachers	Students	Other
	Classrooms										
	Department Meeting Rooms Formal Meetings Casual Conversations										
	Faculty Lounges Lunches/Recess Prep Time Free Time Coffee Breaks										
	School Administration Offices										
	Principal/Assistant Office										
	Hallways Informal Conversations Duty Time										
	In-service Workshops										

	Phase 2 continued First month of teaching	Super-intendent	Principal Assistant Principal	Induetion Program Coordinator	Mentor	Depart ment Chair	Veteran Teaeher within Content Area	Veteran Teacher at Large	Peer Novice Teachers	Students	Other
The 'where' and 'when' Where does the interaction take place and during which particular time frame is information shared	Mentoring Meetings										
	Peer Meetings										
	After school At school Extra curricular activities Informal interactions Away from school Informal gatherings – pubs, etc.										
	Other										

This form will be completed by the researcher after all the data collection sheets have been completed for each candidate. I plan to capture the mosaic of interactions on this sheet, illustrating the various interactions and where they took place.

APPENDIX H

DISSERTATION INTERVIEW PROTOCOL

My research questions are:

How do novice teachers perceive the impact of the multitude of mentoring interactions they experience in the process of their learning to teach?
Why do specific interactions seemingly provide support to novice teachers as they learn to teach?

1. Background info – learning and teacher prep program

Please state your name.

Which subject and grades do you currently teach?

What are your first memories of teaching and learning?

Prompts: Taught swimming skills, taught tennis lessons, taught younger sibs at home, etc.

Where did you complete your teacher preparation program?

How long was this program?

Can you describe your teacher preparation program and how you feel it prepared you to teach?

Prompts: Classes you took, strategies you learned? Pre-prac experiences?

2. Present experience

How have you experienced your first semester of teaching?

What has been the most challenging aspect of your teaching so far?

What has been the most rewarding aspect of your first year of teaching?

3. Induction program

Did you participate in your district or school induction program?

Can you describe this program for me?

Prompts: District orientation, school orientation, workshops for new teachers

How did this program help you this past semester?

4. Official mentor

Who is your mentor?

Prompts: Name, level s/he teachers, subject area, experience

Did your mentor receive training to be a mentor? Can you describe this?

What is the nature of your relationship?

Prompts: Formal/informal
Meeting times – formal, daily, weekly – school mandated?

What type of support has your mentor provided in your learning to teach?

Prompt: School policies and procedures, nuts and bolts, lesson plans, syllabi, classroom management strategies, etc

What aspects of working with your mentor helped you the most?

While working with your mentor, what helped you the least?

5. Other interactions

In the first few weeks of teaching, who do you think was the most instrumental in providing you with support as you navigated this new role of teacher?

Prompt: Formal/ informal support
School policies and procedures, nuts and bolts
Lesson planning, classroom management, syllabi, grading, etc.

Since that time, who do you interact the most with on a daily basis, and connect with about teaching?

Let us take a look at this data analysis sheet (the one I have used from the observations, etc. already done) and talk about the various people that are mentioned and what role they played in supporting you.

This will be open ended and depend on each participant's initial analysis….

What other type of mentoring – formal or informal – occurs at your school or within your department?

6. Reflection on the meaning of these relationships and your learning to teach

Now that you have completed your first semester of teaching, how do you feel your teaching has developed?

Prompts: Lesson planning, classroom control, pacing, assessment, etc.

Could you talk a little about the process you went through in learning to teach? How did this happen for you?

Who/What do you think was instrumental in your developing as a teacher so far?

If you were to start this year over again, what other support do you think would have been helpful?

If you were a mentor, what would you do to support a novice teacher within the first few months of teaching?

Thanks so much
Bev

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